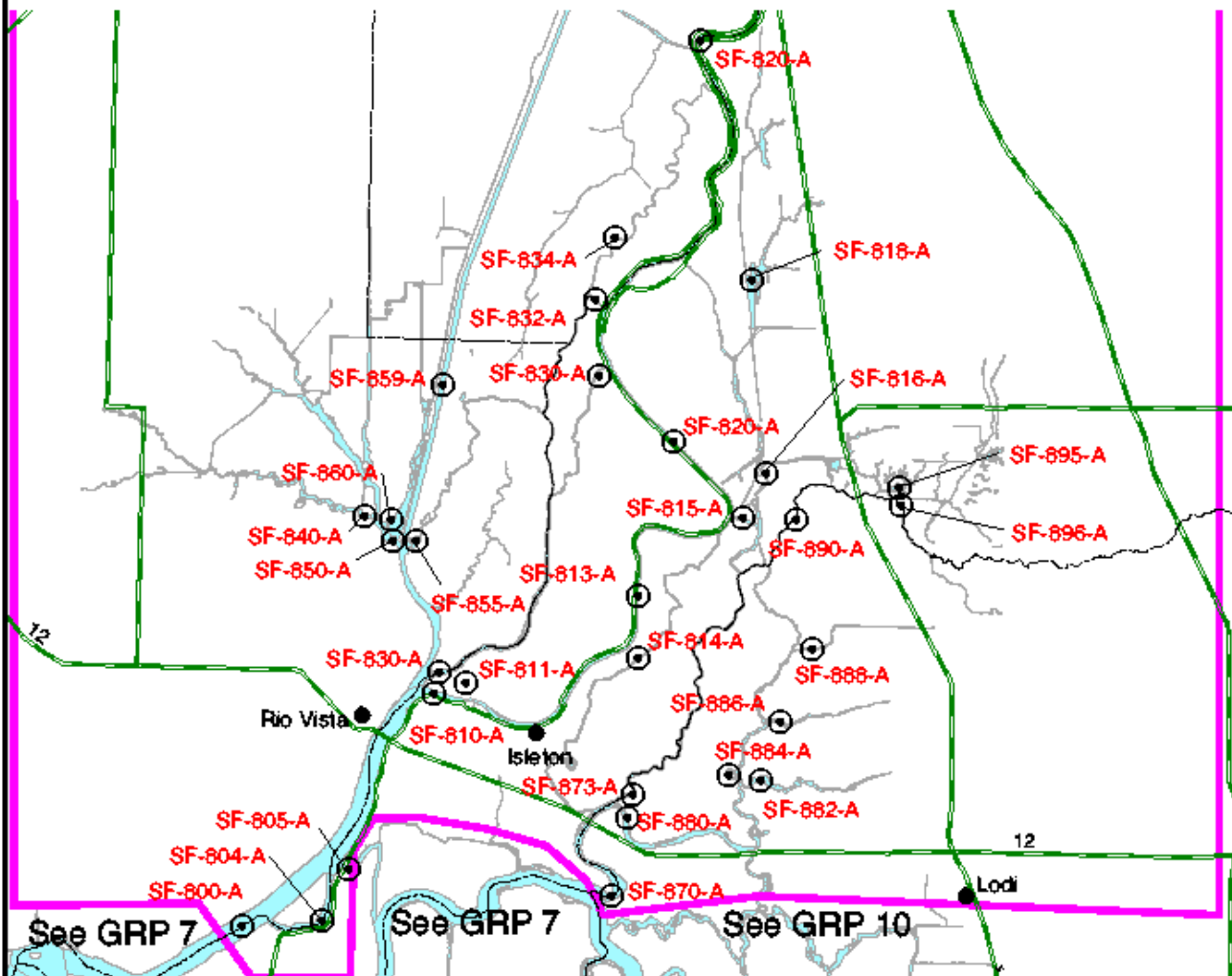
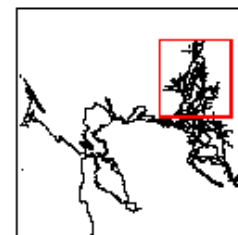




SF Geographic Response Area 8 North Delta - Sacramento to Sherman Island Environmentally Sensitive Sites



0 5 10 15 Miles



Note: Marker symbols (⊙) are only site reference and do not indicate full extent of sites.

Geographic Response Plan - 8

Table of Contents

Site Index/Response Actions.....	3
Sensitive Site Resource List.....	4
SF-800-A/B Sacramento River, Lower Reach.....	7
SF-804-A Sacramento River, Horseshoe Bend at Decker Island.....	9
SF-805-B Threemile Slough West.....	13
SF-810-A Sacramento River, Lower Grand Island Reach.....	17
SF-811-C Sacramento Anthicid Beetle Habitat.....	21
SF-813-A/C Sacramento River, Isleton-Walnut Grove Reach.....	23
SF-814-A/C Georgiana Slough.....	27
SF-815-A Delta Cross Channel/Lower Snodgrass Slough.....	31
SF-816-A Snodgrass Slough Complex.....	35
SF-818-A Stone Lake Complex.....	39
SF-820-A/C Sacramento River, Courtland -Sacramento Reach.....	41
SF-830-A Steamboat Slough.....	45
SF-832-A/B Sutter Slough.....	49
SF-834-A Elk Slough.....	53
SF-840-A Lindsey Slough.....	57
SF-850-A Cache Slough.....	61
SF-855-A Miner Slough.....	65
SF-859-B Sacramento River Deep Water Ship Channel.....	69
SF-860-A Prospect Slough.....	73
SF-870-A Mokelumne River Mouth.....	77
SF-873-A/B North Mokelumne River.....	81
SF-880-A South Mokelumne River.....	85
SF-882-A Sycamore Slough.....	89
SF-884-A Sycamore Island.....	93
SF-886-A Hog Slough.....	97
SF-888-A Beaver Slough.....	101
SF-890-A Mokelumne River, New Hope Reach.....	105
SF-895-A Cosumnes River Reserve.....	107
SF-896-A Mokelumne River, Thornton Reach.....	109

GRP 8 Site Index/Response Actions

Site ID	Priority	Site Name	Assignment	Date/Time Required	Date/Time Completed
SF-800		Sacramento River, Lower Reach			
SF-804		Sacramento.R: Horseshoe Bend - Decker Island			
SF-805		Threemile Slough West			
SF-810		Sacramento.River, Lower Grand Island Reach			
SF-811		Sacramento Anthicid Beetle Habitat			
SF-813		Sacramento.River, Isleton-Walnut Grove Reach			
SF-814		Georgiana Slough			
SF-815		Delta Cross Channel / Lower Snodgrass Slough			
SF-816		Snodgrass Slough Complex			
SF-818		Stone Lake Complex			
SF-820		Sacramento.R: Courtland - Sacramento Reach			
SF-830		Steamboat Slough			
SF-832		Sutter Slough			
SF-834		Elk Slough			
SF-840		Lindsey Slough			
SF-850		Cache Slough			
SF-855		Miner Slough			
SF-859		Sacramento.River Deep Water Ship Channel			
SF-860		Prospect Slough			
SF-870		Mokelumne River Mouth			
SF-873		North Mokelumne River			
SF-880		South Mokelumne River			
SF-882		Sycamore Slough			
SF-884		Sycamore Island			
SF-886		Hog Slough			
SF-888		Beaver Slough			
SF-890		Mokelumne River, New Hope Reach			
SF-895		Cosumnes River Reserve			
SF-896		Mokelumne River, Thornton Reach			

ACP Sensitive Site Resource List – Delta GRP 8

SITE	SUB	SITENAME SO	Strategy Objective	HBOOM	SWBM	XBOOM	SORB	Bboat / skiff	# / Type Skimmer	Special Equipment	Deploy Personnel
2-800	. 1	Sacramento River, Lower Reach 6	Strand oil on beaches or riprap to immobilize and prevent further spread using collection booming and skimming at favorable sites.	3000					4	portable & VT	9 ON WATER/6 ON
2-804	. 1	Sacramento River, Horseshoe Bend at Decker 567	Keep oil in main Sacramento River channel and out of 3-mile Slough and Horseshoe Bend by deflection-exclusion booming.	4800				6/3			40 PERSONS
	. 2	Sacramento River, Horseshoe Bend at Decker 5,6	Exclude oil from north mouth and divert it to shore for collection.	1700				3/2	1	portable & VT	11 PLUS SHORE STAFF
	. 3	Sacramento River, Horseshoe Bend at Decker 5	At south mouth of Slough, deploy booms to exclude entry and to deflect past the mouth.	2300				4/2			14+ PERSONNEL
2-805	. 1	Three Mile Slough - Sacramento River 7	For oil threats from Sacramento River side, keep oil in main Sacramento River and away from mouth of Threemile Slough								
	. 2	Three Mile Slough - Sacramento River 5,6	If oil on Sacramento River side threatens to enter Slough, establish collection and capture in westerly portion of Slough.	2600				2/1	1	portal & VT	9
2-810	. 1	Sacramento River, Lower Grand Island Reach 6,7	Keep oil in main deep-water channel and out of Sacramento River mouth using deflection booms and by trapping oil on the east bank.	13000				5/5	1	portable & VT	40 PERSONS
	. 2	Sacramento River, Lower Grand Island Reach 5,6	Exclude oil from moving up the river to Isleton by deploying exclusion-collection to southeast bank for collection and skimming.	1500	3000			2/2	1	portable & VT	6 ON WATER 4 ON
2-811	. 1	Sacramento Anthicid Beetle Habitat 10	Protect beetle habitat from spill response related intrusions: exclude personnel from site.							Flagging and stakes. Portable toilets.	2 PERSON
2-813	. 1	Sacramento River, Isleton-Walnut Grove Reach 5	If oil is threatening from north, execute Delta Cross Channel closure, boom Georgiana Slough mouth, and divert oil for collection.	500					1	portable & VT	6 PERSON
	. 2	Sacramento River, Isleton-Walnut Grove Reach 6,5	For oil spills from the Isleton area, deploy collection, exclusion boom below bridge to intercept oil and prevent spread upstream.	700				1/1	1	portable & VT	5 PERSON
2-814	. 1	Georgiana Slough 5	For oil coming down Sacramento River from the north, keep oil on the River by setting exclusion-diversion boom across the mouth.	1200				2/1			6 PERSONS
	. 3	Georgiana Slough 5,6	Flood tide oil threats at the South mouth: deter oil entry by deflection into the channel and exclusion booming across mouth.	2100					1	portable & VT	4-10 PERSONS
2-815	. 1	Delta Cross Channel/Lower Snodgrass Slough 5	Prevent oil from entering Delta Cross Channel	1800				200	3/1		11 PERSON
	. 2	Delta Cross Channel/Lower Snodgrass Slough 6	If oil enters Delta Cross Channel from the Sacramento River, divert oil to shore for collection and deploy SBS systems.	1200			600	1/1	2	portable & VT	5 PERSONS
	. 3	Delta Cross Channel/Lower Snodgrass Slough 5	If any oil enters site, close mouth to upper Snodgrass Slough and wetland complex: execute 2-816.1								
2-816	. 1	Snodgrass Slough Complex 5	Prevent oil from moving from/to Snodgrass complex through Delta Cross Channel	500			200	1/1			
2-820	. 1	Sacramento River, Courtland-Sacramento Reach 5,6	If oil is in the River above the locks, at Miller Park area implement catchment booms to ground oil on sandy beach and skim.	4400			700	2/1	1	portable & VT	20 -30 PERSONNEL
	. 2	Sacramento River, Courtland-Sacramento Reach 6	Divert oil to riprap/beach shore for collection where logistics and prevailing conditions permit oil interception and collection.	3000				2/2		portable & VT	8
2-830	. 1	Steamboat Slough 5,6	At the Sacramento mouth, exclude oil movement down Slough and divert it to shore-side collection using deflection-exclusion boom.	1300			500	1/1	1	portable & VT	7-12 PERSONNEL
2-830	. 2	Steamboat Slough 5	Steamboat Slough south mouth on Cache Slough, prevent oil entry into slough on incoming tides by exclusion and by diversion past.	500			500	1.1			5 PERSONNEL
2-832	. 1	Sutter Slough 5,6	Exclude oil and divert to shore for collection, for oil threats to Sacramento mouth.	500			1000	0/1		portable & VT	6 PERSONNEL
	. 2	Sutter Slough 7,6	For oil threats from upstream, deploy deflection boom above the Sacramento mouth to keep oil to mid channel and away from mouth.	600				0/1			3
	. 3	Sutter Slough 5	For the south mouth on Steamboat Slough, set exclusion boom to halt oil spread on a flood tide.	500			100	0/1			2
2-834	. 1	Elk Slough 5	Prevent oil from entering Elk Slough	100	200		70	0/1			2 PERSON FROM
2-840	. 1	Lindsey Slough 7	Keep oil in main channel and prevent oil from entering reaches of upper Cache, Miner, Prospect, and Lindsey Sloughs.								
2-850	. 1	Cache Slough 7	Keep oil in main ship channel and prevent oil from entering reaches of upper Cache, Miner, Prospect, and Lindsey Sloughs.	4800				7/3			39
	. 2	Cache Slough 5	Stop oil movement into Lindsey, Prospect and Upper Cache Sloughs by exclusion booming across Cache Slough at Prospect Slough mouth	1200				2/2		portable & VT	SAME AS ABOVE
	. 3	Cache Slough 5,6	Backup strategy: if oil is likely to overwhelm previous strategy, deploy a secondary exclusion boom at Lindsey Slough mouth	1000			1000	2.1		portable & VT	SAME
2-855	. 1	Miner Slough 5,7	Prevent oil from entering north mouth at Sutter Slough by deploying diversion/exclusion oil to shunt oil past mouth.	200			150				2 PERSON
	. 2	Miner Slough 5,7	Deter oil entry into south mouth at Cache Slough using deflection/exclusion booming at mouth. See Cache Slough primary strategy.								
2-859	. 1	Sacramento River Deep Water Ship Channel 6	If oil is approaching from south, divert oil to a sacrificial beach inside and near the mouth of the channel using prevailing wind	1300			1300	2/1	1	portable & VT	8 PERSON
	. 2	Sacramento River Deep Water Ship Channel 5,6	If oil is originating at Port, minimize oil spread from Channel to other sites and minimize oiling within channel.	3000			1000	2/1	3	portable & VT	8 WATER, 2 LAND
2-860	. 1	Prospect Slough 5	Backup strategy: if oil may escape the exclusion boom strategy above, exclusion boom Prospect Slough mouth and marsh.	1200	2200		2400	2/2			8
2-870	. 1	Lower Mokelumne River 567	Prevent oil from entering Mokelumne mouth on the flood tide by exclusion-collection booming toward eddy to west of mouth.	1500	1000			2/2	1	portable & VT	10 WATER/4 LAND
	. 2	Lower Mokelumne River 5,6	If oil escapes the above strategy, set up diagonal collection boom to most favorable collection shore and boom marina entries.	2000				1/1	1	portable & VT	7 BOAT/ 2 LAND
2-873	. 1	North Mokelumne River 5,6	For oil threats from the north, deploy collection boom to stop downstream oil spread by grounding oil for favorable collection.	400			400	0/1	1	portable & VT	2 PERSONS + SKIM
	. 2	North Mokelumne River 5	If oil is threatening from south, execute south Georgiana Slough strategy and exclude oil movement upstream on flood tide.	700			600	0/1			3 PERSON
	. 3	North Mokelumne River 5	If oil is moving within the reach which will threaten mid-channel island, put protective boom around island.	1000			400	1/1			3 PERSON
2-880	. 1	South Mokelumne River 5	Stop oil from entering or leaving the south mouth by setting boom across the mouth.	500				0/1			2 PEOPLE/ 1 SKIFF
	. 2	South Mokelumne River 5	Stop oil movement into or out of site at north end. Current is downstream during most times of the year.	100					1	portable & VT	2 PEOPLE/ 1 SKIFF
	. 3	South Mokelumne River 8	Protect marshy islands within channel	3000			1000				4 PERSON/2 SKIFF
2-882	. 1	Sycamore Slough 5	Stop oil from entering or leaving the slough by setting boom across the mouth.	300			300	0/1			2 PEOPLE/ 1 SKIFF
2-884	. 1	Sycamore Island 5	Phase I: Stop oil from penetrating or oiling the island by placing exclusionary boom across the channel meander and the east side.	1500			1500	0/2)			4 PEOPLE/ 2 SKIFF
	. 2	Sycamore Island 5		300				0/1			4 PERSON/ 2 SKIFF

SITE SO	SUB	SITENAME Strategy Objective	HBOOM	SWBM / skiff	XBOOM SORB	Bboat	# / Type Skimmer	Special Equipment	Deploy Personnel
2-886	. 1	Hog Slough 5		900	900	1/1			2 PEOPLE/ 1 SKIFF
2-888	. 1	Beaver Slough 5		350	300	0/1			2 PEOPLE/ 1 SKIFF
2-890	. 1	Mokelumne River, New Hope Reach 6							
	. 11	Mokelumne River, New Hope Reach 6							
2-895	. 1	Cosumnes River Reserve 5							
2-896	. 1	Mokelumne River, Thornton Reach 5							

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Sacramento River, Lower Reach - Site Summary

2-800-A

County: Sacramento, Solano
USGS: Rio Vista, Antioch North, Jersey Is

GRP: **Latitude** 38 05 N **Longitude** 121 45 W
OSPR Map: **Last ACP Update** 07/01/1996

SITE DESCRIPTION: (general characterization of site - geomorphology, habitat, exposure, currents)

Site extends from levied portion of Sherman Island (about at G11) to Rio Vista Bridge. This is the main stem of the Sacramento system. The entire reach is broad open water with wave swept shores to the windward. The lower sections have modest beaches on the leeward (Solano) side and are ripped on the windward with occasional emergent vegetation sands and beaches. Some mature trees remain, but most were cleared during revetment projects.

SEASONAL and SPECIAL RESOURCE CONCERNS (seasonal issues, special status spp present, water intakes)

Marshy locales are "A" priority at all times. Special Status Species occur here.

RESOURCES AT RISK

HABITATS AT RISK: (biological habitats including time of year when most sensitive and vulnerable)

Marshy margins, riparian growths and banks are habitat for diverse species. Delta smelt can use these areas for spawning. Breeding, feeding and loafing area for a variety of waterbirds and riparian species. This is an important reach to migratory fish, especially winter-run chinook(F/CE): this is within the zone of highest concern from mid-September through May. Delta Smelt (F/CT) occur here in high numbers at various times and years. Several special status species of plants are found here including Suisun marsh aster, Delta tule pea, Delta mudwort, Mason's lilaeopsis. There are cultural sites here.

SPECIES/COMMUNITIES AT RISK (Brief summaries including time of year when most sensitive/vulnerable)

Delta Smelt, Chinook Salmon
Delta tule pea
Mason's lilaeopsis

CULTURAL and ARCHEOLOGICAL SENSITIVITIES

KEY SITE CONTACTS - type: E-ntry/access; B-iological expertise; L-ogistical; C-ultural; T-rustee; or O-ther assistance

Type	Name	Organization	Phone	FAX
BL	Kent Nelson	Ca Dept of Water Resources	(916) 227-7581	
TL	Ron Breen	CA Dept Parks & Recreation	(916) 445-7373	
B	Brenda Grewell	Ca Dept Water Resources	(916) 227-7520	(916) 227-7554
BT	Ed Littrell	Ca Dept. of Fish and Game	(916) 358-2924	(916) 358-2912
TB	Laurie Briden	Dept of Fish and Game Bay/Delta Studies	(209) 944-7800	
O	Robert Clark	North Delta Water Agency	(916) 446-0197	
TB	Bob Pine	USFWS, Endangered Species	(916) 979-2752	

2-800-A Sacramento River, Lower Reach - Site Strategy

Latitude Longitude

County: Sacramento, Solano

CHART: 18661 Sacramento & San Joaquin River

38 05 N

121 45 W

SITE LOCATION: boundaries, landmarks, area to locate and delimit the site

HAZARDS and RESTRICTIONS - Air, Water & Ground - things to beware of when approaching or at site

Roads are narrow with narrow shoulders in many places and traffic on Hwys is fast which poses a traffic hazard. Traffic control should be implemented at this site. Aerial traffic beware of high wires. Foot traffic beware of slips, trips and falls of riprap banks.

POTENTIAL OIL IMPACTS - CONCERNS/ ADVICE to RESPONDERS: (regarding sensitive species present, penetration into marshes

or sediments, burial, organism burrows, tidal channel spreading, watertable limitations, collateral impacts)

Penetration in the riprap and potential impacts to marsh habitats. Avoid spreading oil to upland, roadways and banks. Avoid trampling oil into marshy areas or muddy bottoms. Do not tie boom to trees or shrubs on levees.

SITE STRATEGIES

Strategy 2-800.1

(USCG Strategic Objective: 6)

Dates: SISRS Approved last tested ACP date
11/06/1996 07/01/1996

Objective or Prevention Condition

Strand oil on beaches or riprap to immobilize and prevent further spread using collection booming and skimming at favorable sites.

Technique Details

Check here means "No strategy diagram": () Check here means "Contact CCC": ()

Deploy 500' 8X8+ collection booms at favorable collection points along the windward shores of Sherman Island and Brannon Island (but not on Brannon Island State Park shoreline). Booms should be set into the wind and will intercept along-shore movement of oil collecting on leeward shores. Establish skimming at shoreline.

Table of Response Resources

strategy	hboom	swpbm	xboom	Anchoring	sorb	Bb/skif	skimmers	-No	special equip	deploy personnel	tending personnel	SO
2-800.1	3000			8/50lb/danforth				portable & VT	4	9 ON WATER/6	yes	6

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

By boat most obvious access is from Rio Vista directly to the waters of this reach. By vehicle, Hwy 160 south from Hwy 12 at Rio Vista. Section along west Sherman Island is accessible from Sherman Island Rd. off of Hwy 160.

LAND ACCESS LEVEL: (foot only, 2WD, large truck, 4WD, road limitations...seasonal..locked gates)
All weather/Traffic most banks

WATER LOGISTICS:

Access limitations: depth, obstructions: Deep water except at margins
Boat Launching, Loading, Docking
and Services Available:

FACILITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Rio Vista has a full range of support facilities. Camping is possible at Brannon Island State Park and Lower Sherman Island Wildlife Conservation Area, and various small marina parks nearby. Rio Vista area marinas have full service. Alternative launches are near Grand Island or the Hwy 84 ferry slip.

COMMUNICATIONS LIMITATIONS / PROBLEMS:

No Problems Radio Pager Cell phone

ADDITIONAL COMMENTS

Sacramento River, Horseshoe Bend at Decker Island - Site

2-804 -A

County: Sacramento
USGS: Rio Vista

GRP: Latitude 38 00 N Longitude 121 00 W
OSPR Map: 168 Last ACP Update 07/01/1996

SITE DESCRIPTION: (general characterization of site - geomorphology, habitat, exposure, currents)

Site extends from the Sacramento mouth of 3-mile Slough to reunion of Horseshoe Bend at south tip of Decker Island. This wide riverine habitat is confined between leveed banks. The reach has emergent tule marshes along most of its length and is premium Delta smelt spawning habitat. Uplands are trees and shrubs including many mature trees. Water margins are shallow and marshy with some extensive emergent patches particularly near the mouth. Portions are ripped. There are two islands in the reach which have been developed as residences or marina/mobile parks, but most of the shoreline is undeveloped and natural.

SEASONAL and SPECIAL RESOURCE CONCERNS (seasonal issues, special status spp present, water intakes)

Marshy areas at this site have "A" priority at all times. Seven Special Status Species occur at or near this locale.

RESOURCES AT RISK

HABITATS AT RISK: (biological habitats including time of year when most sensitive and vulnerable)

There are some extensive emergent marshy habitats, along both margins of the channel, which have great value for Delta smelt spawning as well as typical marsh values. Uplands have well developed riparian growth. Even revetments have well developed grasses, shrubby and trees. The aquatic habitat varies from deep and swift to shallow warm pockets.

SPECIES/COMMUNITIES AT RISK (Brief summaries including time of year when most sensitive/vulnerable)

Many raptor, canopy and riparian bird species occur here. Greater sand hill cranes winter in the neighboring interior of Sherman Island. The area also supports a diversity of waterbirds and marsh birds.

This site is excellent habitat for semiaquatic species of mammals and reptiles, amphibians and possibly western pond turtles.

A wide variety of fish, particularly migrant fish use this habitat. This is in the zone of high concern for winter-run chinook (F/CE) smolts and has relatively high abundance of Delta smelt (F/CT) during November and December.

In the luxuriant riparian and emergent vegetation here, two Special Status Species of plant can be found: Mason's lilaeopsis (F/CSC), and Suisun marsh aster (F/CSC).

CULTURAL and ARCHEOLOGICAL SENSITIVITIES

KEY SITE CONTACTS - type: E-ntry/access; B-iological expertise; L-ogistical; C-ultural; T-rustee; or O-ther assistance

Type	Name	Organization	Phone	FAX
BL	Kent Nelson	Ca Dept of Water Resources	(916) 227-7581	
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TB	Laurie Briden	Dept of Fish and Game Bay/Delta Studies	(209) 944-7800	
O	Robert Clark	North Delta Water Agency	(916) 446-0197	
TB	Bob Pine	USFWS, Endangered Species	(916) 979-2752	

2-804 -A Sacramento River, Horseshoe Bend at Decker Island - Site Strategy

County: Sacramento

CHART: 18661 Sacramento & San Joaquin River

Latitude
38 00 N

Longitude
121 00 W

SITE LOCATION: boundaries, landmarks, area to locate and delimit the site

Site extends from the Sacramento mouth of 3-mile Slough to reunion of Horseshoe Bend at south tip of Decker Island.

HAZARDS and RESTRICTIONS - Air, Water & Ground - things to beware of when approaching or at site

Roads are narrow and winding with narrow shoulders and low visibility curves in spots, and traffic on Hwy 160 (east levee) is fast and

POTENTIAL OIL IMPACTS - CONCERNS/ ADVICE to RESPONDERS: (regarding sensitive species present, penetration into marshes

or sediments, burial, organism burrows, tidal channel spreading, watertable limitations, collateral impacts)

This segment of river has lots of emergent tule marsh along its margins. Infiltration of oil into thick riparian habitat. Beaver burrows and riprap are also places where oil may become lodged.

SITE STRATEGIES

Strategy 2-804.1

(USCG Strategic Objective: 5,6)

Dates: SISRS Approved last tested ACP date
11/06/1996 07/01/1996

Objective or Prevention Condition

Keep oil in main Sacramento River channel and out of 3-mile Slough and Horseshoe Bend by deflection-exclusion booming.

Technique Details

Check here means "No strategy diagram": () Check here means "Contact CCC": ()

Deploy deflection-exclusion boom in wide chevron to deflect oil past site and keep it in main channel. Use 4800' of 12X12+ curtain boom leaving trailing boom ends to maintain tidal seal. This area is subject to strong currents and winds, commonly exceeding 25 knots. So, additional fall back exclusion booming at mouth of Horseshoe Bend, with sorbent backing may be required. (an additional 1700' of 8X8+ curtain boom.)

Strategy 2-804.2

(USCG Strategic Objective: 5,6)

Dates: SISRS Approved last tested ACP date
11/06/1996 07/01/1996

Objective or Prevention Condition

Exclude oil from north mouth and divert it to shore for collection.

Technique Details

Check here means "No strategy diagram": () Check here means "Contact CCC": ()

Deploy 2300ft of 12X12+ exclusion-collection boom from the north tip of Decker Island at a diagonal to the Sherman Island levee for collection. Set up land-based skimming operation at levee. Back with sorbent boom if entraining or escapement is likely.

Strategy 2-804.3

(USCG Strategic Objective: 5)

Dates: SISRS Approved last tested ACP date
11/06/1996 07/01/1996

Objective or Prevention Condition

At south mouth of Slough, deploy booms to exclude entry and to deflect past the mouth.

Technique Details

Check here means "No strategy diagram": () Check here means "Contact CCC": ()

Deploy 2300ft of 12X12+ exclusion-deflection boom across mouth in a shallow chevron from Sherman Island to Decker Island, leaving trailing ends to ensure tidal seal. Additional booming or sorbent booming may be necessary inside the mouth to deter oil movement if the outer chevron fails.

Table of Response Resources

strategy	hboom	swpbm	xboom	Anchoring	sorb	Bb/skif	skimmers	-No	special equip	deploy personnel	tending personnel	SO
2-804.1	4800			70/50lb/anchors + Chain + Line		6/3				40 PERSONS	Yes, close watch.	567
2-804.2	1700			5/25lb/danforth anchors		3/2	portable & VT	1		11 PLUS SHORE	skimming and checks	5,6
2-804.3	2300			25/50lb/danforth		4/2				14+ PERSONNEL	close watch	5

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Via water, the site begins two miles north of the Rio Vista Bridge where the Sacramento River branches off Cache Slough and the Sacramento Deep Water Channel. By vehicle, the site begins two miles north of the Hwy 12 Rio Vista Bridge on Hwy 160.

LAND ACCESS LEVEL: (foot only, 2WD, large truck, 4WD, road limitations...seasonal...locked gates)
ALL WEATHER & TRAFFIC ON

WATER LOGISTICS:

Access limitations: depth, obstructions: ACCESS LIMITED DUE TO VEGETATION

Boat Launching, Loading, Docking Launch facilities are available at Rio Vista or Brannon Island State Park.
and Services Available:

FACILITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

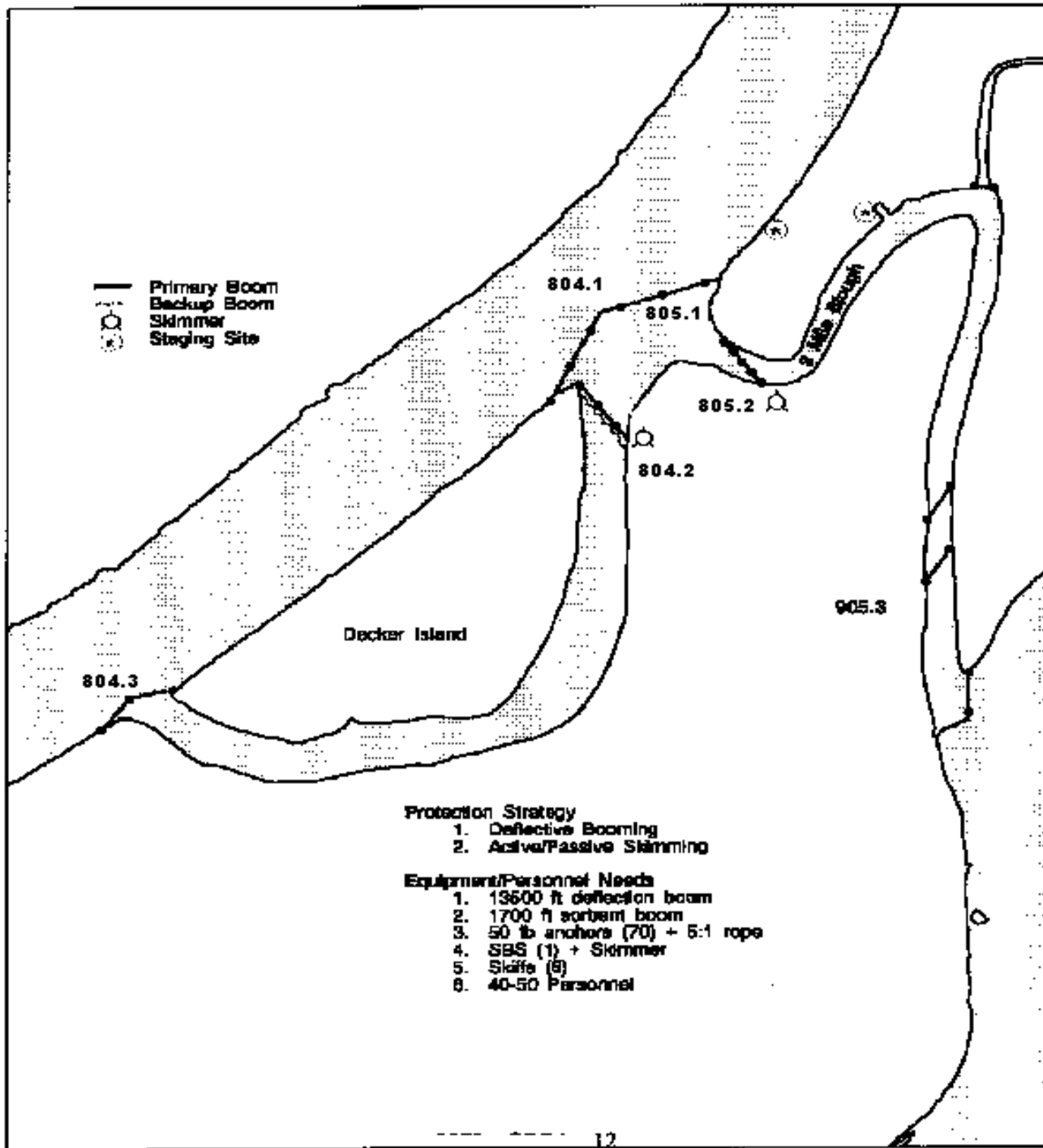
Rio Vista USCG station or Brannon Island State Park would serve well as a staging or command site for this area. Either could be used as a deployment site as well. Rio Vista is the nearest locale with full support services, food, lodging, emergency service, marine repair, etc.

COMMUNICATIONS LIMITATIONS / PROBLEMS:

No Problems Radio Pager Cell phone

ADDITIONAL COMMENTS

Protective Strategies 3 Mile Slough / Horseshoe Bend **SF-805 / SF-804**



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Three Mile Slough - Sacramento River - Site Summary

2-805 -B

County: Sacramento
USGS: Rio Vista

GRP: Latitude 38 06.5 N Longitude 121 41.2 W
OSPR Map: Last ACP Update 07/01/1996

SITE DESCRIPTION: (general characterization of site - geomorphology, habitat, exposure, currents)

This Slough is about 3.5 mile long from its mouth on the Sacramento River to its mouth on the San Joaquin River. Site also includes the westerly end of Sevenmile Slough. This swift flowing channel is ripped on most of its steep banks. There are pockets of riparian vegetation. Brannon Island State Park borders its northwestern edge. There are pockets of emergent growth along its length, particularly in the Sevenmile Slough channel at the Park. This is a key control point to prevent oil spread from one side of the Delta to the other.

SEASONAL and SPECIAL RESOURCE CONCERNS (seasonal issues, special status spp present, water intakes)

This is a key site in containing the spread of oil. There are significant resource here all year but overwhelming concern is to prevent oil movement between Sacramento and San Joaquin River systems.

RESOURCES AT RISK

HABITATS AT RISK: (biological habitats including time of year when most sensitive and vulnerable)

Riparian and wetland habitat is prominent in Brannan Island State Recreation Area. This Slough is also a key location for habitats in general since it permits flow (and spread of oil) between central and northwest Delta.

SPECIES/COMMUNITIES AT RISK (Brief summaries including time of year when most sensitive/vulnerable)

Riverine bird life typifies the area. Greater sandhill cranes (CT) winter in the nearby interior of Sherman Island.

Emergent vegetation is spawning habitat for Delta smelt (F/CT), and their fry are commonly present in moderate to high densities.

This waterway is also within the zone of highest concern for winter-run chinook salmon (F/CE) smolts from September through May.

Sensitive plant species found here include Suisun marsh aster, Delta tule pea, Mason's lilaeopsis (all F/CSC), and Antioch dunes evening primrose (F/CE).

CULTURAL and ARCHEOLOGICAL SENSITIVITIES

KEY SITE CONTACTS - type: E-ntry/access; B-iological expertise; L-ogistical; C-ultural; T-rustee; or O-ther assistance

Type	Name	Organization	Phone	FAX
BL	Kent Nelson	Ca Dept of Water Resources	(916) 227-7581	
TL	Ron Breen	CA Dept Parks & Recreation	(916) 445-7373	
B	Brenda Grewell	Ca Dept Water Resources	(916) 227-7520	(916) 227-7554
BT	Ed Littrell	Ca Dept. of Fish and Game	(916) 358-2924	(916) 358-2912
TB	Laurie Briden	Dept of Fish and Game Bay/Delta Studies	(209) 944-7800	
O	Robert Clark	North Delta Water Agency	(916) 446-0197	
TB	Bob Pine	USFWS, Endangered Species	(916) 979-2752	

ACP page format last revised 06-24-

2-805 -B Three Mile Slough - Sacramento River - Site Strategy

County: Sacramento

CHART: 18661 Sacramento & San Joaquin River

Latitude
38 06.5 N

Longitude
121 41.2 W

SITE LOCATION: boundaries, landmarks, area to locate and delimit the site

This Slough is about 3.5 mile long from its mouth on the Sacramento River to its mouth on the San Joaquin River. Site also includes the westerly end of Sevenmile Slough.

HAZARDS and RESTRICTIONS - Air, Water & Ground - things to beware of when approaching or at site

Steep riprap banks and eroded banks with thick vegetation are obstacles to foot traffic. Narrow road and narrow shoulders creates a hazardous situation. Traffic control should be implemented at this site.

POTENTIAL OIL IMPACTS - CONCERNS/ ADVICE to RESPONDERS: (regarding sensitive species present, penetration into marshes or sediments, burial, organism burrows, tidal channel spreading, watertable limitations, collateral impacts)

Infiltration of oil into rip-rap, wetland, and riparian habitat.

SITE STRATEGIES

Strategy 2-805.1

(USCG Strategic Objective: 7)

Dates: SISRS Approved last tested ACP date
11/06/1996 07/01/1996

Objective or Prevention Condition

For oil threats from Sacramento River side, keep oil in main Sacramento River and away from mouth of Threemile Slough

Technique Details

Check here means "No strategy diagram": () Check here means "Contact CCC": ()

See Sacramento River, Horseshoe Bend strategy, 2-804.

Strategy 2-805.2

(USCG Strategic Objective: 5,6)

Dates: SISRS Approved last tested ACP date
11/06/1996 07/01/1996

Objective or Prevention Condition

If oil on Sacramento River side threatens to enter Slough, establish collection and capture in westerly portion of Slough.

Technique Details

Check here means "No strategy diagram": () Check here means "Contact CCC": ()

This is a key deployment to keep oil in the Sacramento River from spreading to the San Joaquin River. At Hwy 160 bridge, deploy a collection diagonal to land the oil at the most favorable collection point under prevailing wind and current conditions: collect oil with land-based skimmer. Repeat this configuration as necessary to intercept oil spreading from west to east.

Table of Response Resources

strategy	hboom	swpbm	xboom	Anchoring	sorb	Bb/skif	skimmers	-No	special equip	deploy personnel	tending personnel	SO
2-805.1												7
2-805.2	2600			5/50lb anchor + chain + line	2/1		portal	& VT	1	9	Yes	5,6

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

This site is easily accessible from either Sacramento or San Joaquin Rivers since it is a major cross link. Also, the boat ramp at Brannon Island State Park is on the Slough. Levee Roads and Hwy 160 provide vehicle access: Sherman Island Road is an all weather/all traffic paved road; Twitchell Island levee roads are private (DWR).

LAND ACCESS LEVEL: (foot only, 2WD, large truck, 4WD, road limitations...seasonal..locked gates)
ALL WEATHER/TRAFFIC

WATER LOGISTICS:

Access limitations: depth, obstructions: GENERALLY VERY GOOD WATER

Boat Launching, Loading, Docking Launching facilities available at Brannon Island State Recreational Area.
and Services Available:

FACILITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Staging area available on river side and slough side at Brannon Island Recreational Area. Facilities including restrooms, electricity, and phone available.

COMMUNICATIONS LIMITATIONS / PROBLEMS:

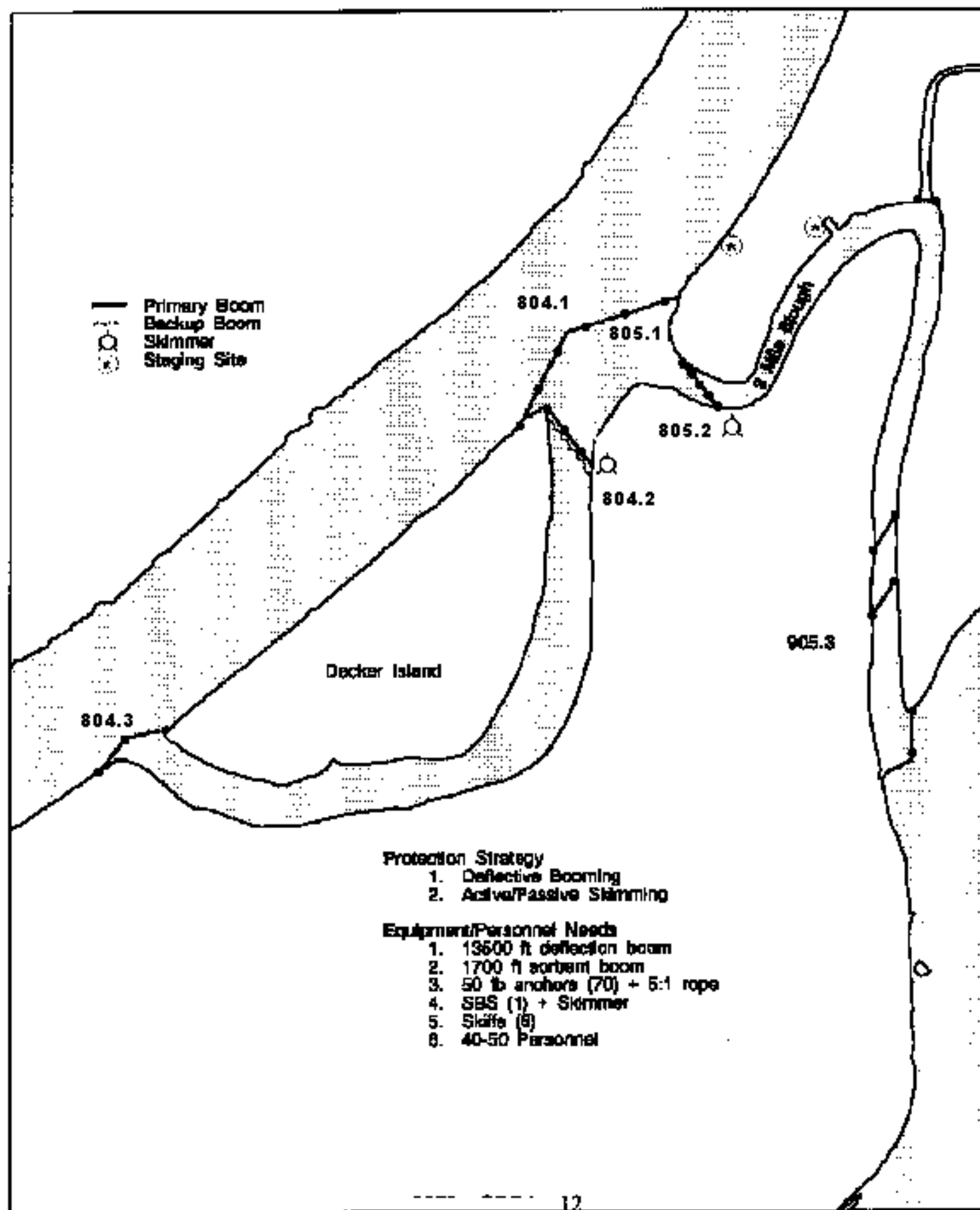
No Problems Radio Pager Cell phone

ADDITIONAL COMMENTS

Protective Strategies

3 Mile Slough / Horseshoe Bend

SF-805 / SF-804



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Sacramento River, Lower Grand Island Reach - Site Summary

2-810 -A

County: Sacramento, Solano
USGS: Rio Vista

GRP: Latitude 38 10.5 N Longitude 121 39.5 W
OSPR Map: 168 Last ACP Update 07/01/1996

SITE DESCRIPTION: (general characterization of site - geomorphology, habitat, exposure, currents)

Site extends from the Rio Vista Bridge up the Sacramento river past the tip of Grand Island (G1) to the Isleton Bridge. This wide riverine habitat is confined between leveed banks. The lower portion has been identified by both DMRP and NHD/DFG as having extraordinary habitat values. Uplands are trees and shrubs including many mature trees. Water margins are shallow and marshy with some extensive emergent patches particularly near the mouth, where there is an extensive emergent marsh just downstream from Grand Island. Portions are ripped. There are two islands in the reach which have been developed as residences or marina/mobile parks, but most of the shoreline is undeveloped and natural.

SEASONAL and SPECIAL RESOURCE CONCERNS (seasonal issues, special status spp present, water intakes)

Marshy areas at this site have "A" priority at all times. Seven Special Status Species occur at or near this locale.

RESOURCES AT RISK

HABITATS AT RISK: (biological habitats including time of year when most sensitive and vulnerable)

There are some extensive marshy habitats, particularly near the tip of Grand Island where they extend well into the channel on both sides and at the mouth. Uplands have well developed riparian growth. Even revetments have well developed grasses, shrubbery and trees. The aquatic habitat varies from deep and swift to shallow warm pockets.

SPECIES/COMMUNITIES AT RISK (Brief summaries including time of year when most sensitive/vulnerable)

The Swainson's Hawk (FT/CT) occurs here as do many other raptors canopy and riparian species. The area also supports a diversity of waterbirds and marsh birds.

The lower portion of the site is excellent habitat for semi aquatic species, amphibians and possibly western pond turtles.

A wide variety of fish, particularly migrant fish, use this habitat. This is in the zone of high concern for winter-run chinook (F/CE) smolts and has relatively high abundance of Delta smelt (F/CT) during November and December.

Two endangered insects occur in habitat adjacent to this site: the Sacramento anthicid beetle and the Antioch dunes anthicid beetle occur on the upland sands at the tip of Grand Island.

In the luxuriant riparian and emergent vegetation here, two Special Status Species of plant can be found: Mason's lilaeopsis (F/CSC), and Delta tule pea (F/CSC).

CULTURAL and ARCHEOLOGICAL SENSITIVITIES

KEY SITE CONTACTS - type: E-ntry/access; B-iological expertise; L-ogistical; C-ultural; T-rustee; or O-ther assistance

Type	Name	Organization	Phone	FAX
BL	Kent Nelson	Ca Dept of Water Resources	(916) 227-7581	
B	Brenda Grewell	Ca Dept Water Resources	(916) 227-7520	(916) 227-7554
BT	Ed Littrell	Ca Dept. of Fish and Game	(916) 358-2924	(916) 358-2912
OL		Department of Water Resources	(916) 574-2714	
TB	Laurie Briden	Dept of Fish and Game Bay/Delta Studies	(209) 944-7800	
O	Robert Clark	North Delta Water Agency	(916) 446-0197	
OEL	Alex Hildebrand	South Delta Water Agency	(209) 823-4166	
O	Ops Center Central Valley	US Bureau of Reclamation	(916) 979-3002	
TB	Bob Pine	USFWS, Endangered Species	(916) 979-2752	

2-810 -A

Sacramento River, Lower Grand Island Reach - Site Strategy

County: Sacramento, Solano

CHART: 18661 Sacramento & San Joaquin River

Latitude 38 10.5 N Longitude 121 39.5 W

San Francisco Bay & Delta
9973-GRP8-17

SITE LOCATION: boundaries, landmarks, area to locate and delimit the site

Site extends from the Rio Vista Bridge up the Sacramento river past the tip of Grand Island (G1) to the Isleton Bridge.

HAZARDS and RESTRICTIONS - Air, Water & Ground - things to beware of when approaching or at site

Roads are narrow and winding with narrow shoulders and low visibility curves in spots, and traffic on Hwy 160 (east levee) is fast and poses hazards: traffic control should be implemented at this site. Channel margins have thick vegetation, shallows and soft bottoms.

Aerial traffic beware of occasional power wire crossings.

POTENTIAL OIL IMPACTS - CONCERNS/ ADVICE to RESPONDERS: (regarding sensitive species present, penetration into marshes

or sediments, burial, organism burrows, tidal channel spreading, watertable limitations, collateral impacts)

Infiltration of oil into thick riparian habitat and emergent marshes. Beaver and other animal burrows may be present.

SITE STRATEGIES**Strategy 2-810.1**

(USCG Strategic Objective: **6,7**)

Dates: **SISRS** **Approved** **last tested** **ACP date**
11/06/1996 07/01/1996

Objective or Prevention Condition

Keep oil in main deep-water channel and out of Sacramento River mouth using deflection booms and by trapping oil on the east bank.

Technique Details

Check here means "No strategy diagram": () Check here means "Contact CCC": ()

1. Deploy 3 deflection booms (3000' 8X8+ each) in Cache Slough upstream from Grand Island tip to divert oil to main channel and keep it away from marshy areas at Grand Island tip.

2. Set a wide chevron of boom (4000' 8X8+ curtain boom) pointing downstream for flood tide. One wing will divert oil near east shore to a collection point just upstream from Das Cliff Haus at the county day use site; the other wing will divert oil on open water into main channel and away from the marshes at the tip of Grand Island.

Strategy 2-810.2

(USCG Strategic Objective: **5,6**)

Dates: **SISRS** **Approved** **last tested** **ACP date**
11/06/1996 07/01/1996

Objective or Prevention Condition

Exclude oil from moving up the river to Isleton by deploying exclusion-collection to southeast bank for collection and skimming.

Technique Details

Check here means "No strategy diagram": () Check here means "Contact CCC": ()

Deploy 1500' 8X8+ exclusion-collection boom from tip of Grand Island upstream and across to small sandy beach on Brannon Island shore (at the curve of Hwy 160). Line the marsh downstream with 3000'4x4+ of protective boom. If there is much wind chop, both will need to be backed with sorbent boom. Establish land-based skimming at beach.

Table of Response Resources

strategy	hboom	swpbm	xboom	Anchoring	sorb	Bb/skif	skimmers	-No	special equip	deploy personnel	tending personnel	SO
2-810.1	13000			30/40 lb/danforths		5/5	portable & VT		1	40 PERSONS	Yes	6,7
2-810.2	1500	3000		4/22+ 7/12+/danforths & stake		2/2	portable & VT		1	6 ON WATER 4	skimming and watch	5,6

LOGISTICS**DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)**

Via water, the site begins at the Rio Vista Bridge and branches off the Sacramento Deep Water Ship Channel at Cache Slough, following the easterly shoreline to the Isleton Bridge. By vehicle, Hwy 160 runs along the east levee from Hwy 12 to the Isleton bridge.

LAND ACCESS LEVEL: (foot only, 2WD, large truck, 4WD, road limitations...seasonal..locked gates)
ALL WEATHER & TRAFFIC HWY 160

WATER LOGISTICS:

Access limitations: depth, obstructions: ACCESS LIMITED DUE TO VEGETATION

Boat Launching, Loading, Docking Hidden Harbor, Vieira's Resort, Isleton Boat Ramp and Das Cliff Haus have launching, fuel, and Services Available: moorage and limited marine service. There is a free public launch and parking area at the mouth of this site.

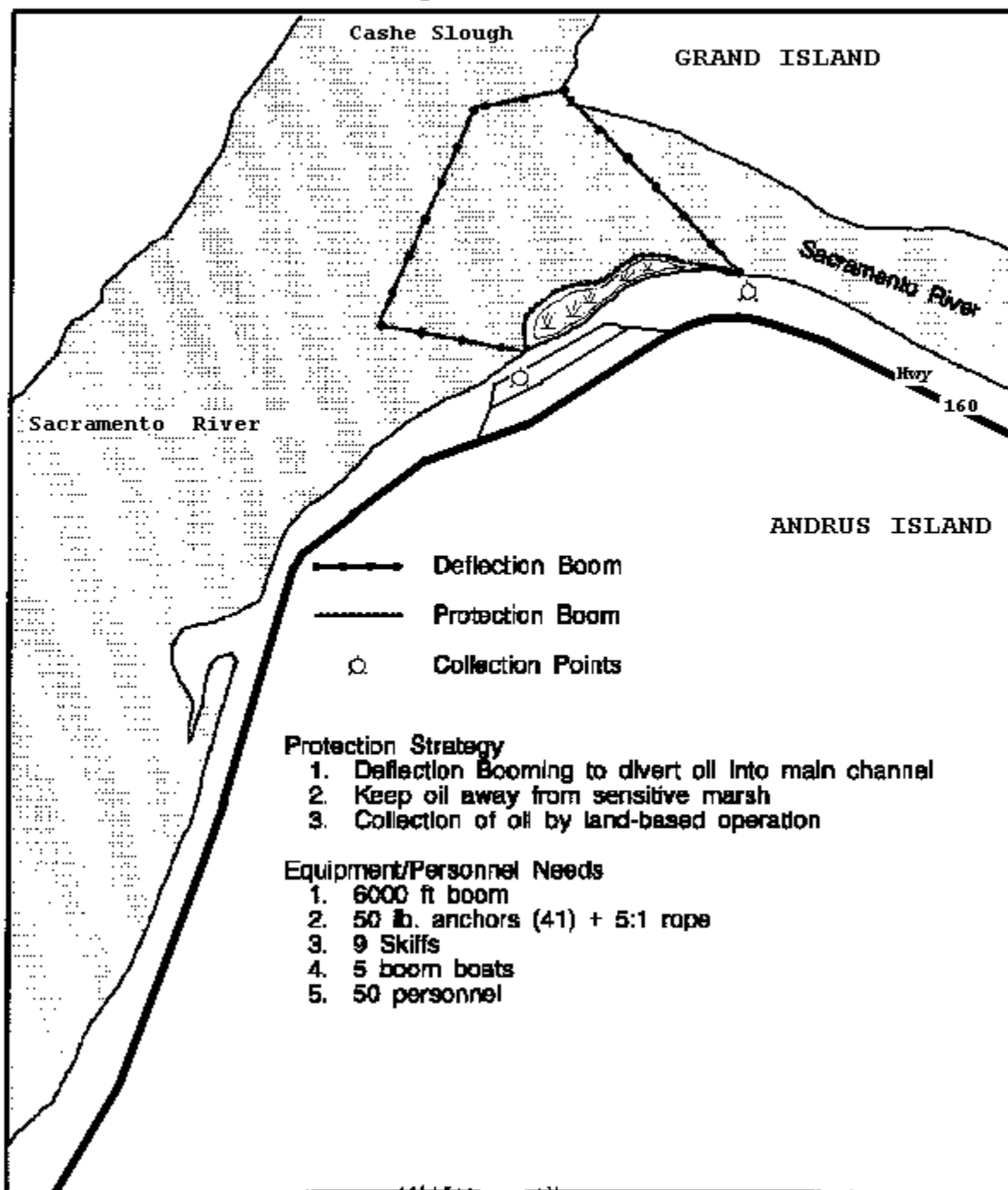
FACILITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE: This Wildlife Conservation Board access site opposite the tip of Grand Island along Hwy 160 would serve well as a local deployment site.

The major deployment site would still remain either the Ryer Island ferry landing (Hwy 84) on deep water channel above Steamboat Slough or Rio Vista. Rio Vista is the nearest locale with full support services, food, lodging, emergency service, marine repair, etc.

COMMUNICATIONS LIMITATIONS / PROBLEMS: No Problems Radio Pager Cell phone

ADDITIONAL COMMENTS

Protective Strategies Sacramento River, Lower Grand Island Reach SF-810-A



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Sacramento Anthicid Beetle Habitat - Site Summary

2-811 -C

County: Sacramento
USGS: Rio Vista

GRP: **Latitude** 38 10.7 N **Longitude** 121 39.5 W
OSPR Map: 168 **Last ACP Update** 07/01/1996

SITE DESCRIPTION: (general characterization of site - geomorphology, habitat, exposure, currents)

This site is the triangular south tip of Grand Island. It is bordered on two sides by the levees and on the third (east side) by the levee road. This site is the habitat for two endangered beetle species. It was formerly a dredge spoils site and was also used as a dump at one time. It is high sandy ground surrounded by levees. It has become colonized by shrubs, trees and other natural vegetation. Its has been identified by both Delta Master Recreation Plan and DFG/NHD as having extraordinary habitat values.

SEASONAL and SPECIAL RESOURCE CONCERNS (seasonal issues, special status spp present, water intakes)

RESOURCES AT RISK

HABITATS AT RISK: (biological habitats including time of year when most sensitive and vulnerable)

Primary concern is inadvertent disturbance or destruction of beetle habitat. Other herb and shrub habitats are present. Riparian community is part of adjacent sites.

SPECIES/COMMUNITIES AT RISK (Brief summaries including time of year when most sensitive/vulnerable)

A wide variety of upland bird life occurs here including Swainson's hawk (F/CT) and other raptors. A wide variety of upland mammals, reptiles and other land fauna occur here.

CULTURAL and ARCHEOLOGICAL SENSITIVITIES

KEY SITE CONTACTS - type: E-ntry/access; B-iological expertise; L-ogistical; C-ultural; T-rustee; or O-ther assistance

Type	Name	Organization	Phone	FAX
BL	Kent Nelson	Ca Dept of Water Resources	(916) 227-7581	
B	Brenda Grewell	Ca Dept Water Resources	(916) 227-7520	(916) 227-7554
BT	Ed Littrell	Ca Dept. of Fish and Game	(916) 358-2924	(916) 358-2912
TB	Laurie Briden	Dept of Fish and Game Bay/Delta Studies	(209) 944-7800	
TB	Bob Pine	USFWS, Endangered Species	(916) 979-2752	

2-811 -C

Sacramento Anthicid Beetle Habitat - Site Strategy

County: Sacramento

CHART: 18661 Sacramento & San Joaquin River

Latitude
38 10.7 N

Longitude
121 39.5 W

SITE LOCATION: boundaries, landmarks, area to locate and delimit the site

This site is the triangular south tip of Grand Island. It is bordered on two sides by the levees and on the third (east side) by the levee road.

HAZARDS and RESTRICTIONS - Air, Water & Ground - things to beware of when approaching or at site

Narrow road and narrow shoulders pose a potential traffic hazard: traffic control should be implemented at this site. Thick vegetation along shore and poison oak. Slips, trips and falls.

POTENTIAL OIL IMPACTS - CONCERNS/ ADVICE to RESPONDERS: (regarding sensitive species present, penetration into marshes or sediments, burial, organism burrows, tidal channel spreading, watertable limitations, collateral impacts)

There are no direct potential oiling impacts: HOWEVER, this area should be avoided and NOT be used for a staging area, waste oil or oily debris storage, equipment storage, camping, or random usage. Traffic using surrounding levees to access water margins should be tightly controlled.

SITE STRATEGIES

Strategy 2-811.1

(USCG Strategic Objective: 10)

Dates: SISRS Approved last tested ACP date
11/06/1996 07/01/1996

Objective or Prevention Condition

Protect beetle habitat from spill response related intrusions: exclude personnel from site.

Technique Details

Check here means "No strategy diagram": () Check here means "Contact CCC": ()

1. Flag area to block entries.
2. If levees are used to access beach front:
 - a) Flag and tape-off site to discourage foot and vehicle traffic off the levee into habitat;
 - b) Set up traffic patterns and turn-arounds;
 - c) Enforce strict decon practices.
3. Provide portable toilets at points where there may be frequent worker presence.

Table of Response Resources

strategy	hboom	swpbm	xboom	Anchoring	sorb	Bb/skif	skimmers	-No	special equip	deploy personnel	tending personnel	SO
2-811.1	0	0	0	0	0	0	0	0	Flagging and stakes. Portable	2 PERSON	maintenance/enforcemen	10

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

This is a land site without water access. Vehicle access is from Hwy 160 at the Isleton bridge, the site is 3.5 miles south on the Grand Island (west bank) levee road: at the site the road drops of the levee and runs along the front of the site to the other side of the island.

LAND ACCESS LEVEL: (foot only, 2WD, large truck, 4WD, road limitations...seasonal, locked gates)
ALL WEATHER/TRAFFIC

WATER LOGISTICS:

Access limitations: depth, obstructions: NO ACCESS
Boat Launching, Loading, Docking
and Services Available:

FACILITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

COMMUNICATIONS LIMITATIONS / PROBLEMS: No Problems Radio Pager Cell phone

ADDITIONAL COMMENTS

Sacramento Anthicid Beetle Habitat – NO Strategy Diagram

Sacramento River, Isleton-Walnut Grove Reach - Site Summary 2-813 -A/C

County: Sacramento GRP: Latitude 38 10.5 N Longitude 121 35.5 W
USGS: Clarksburg, W Sacramento, Courtland OSPR Map: 164 Last ACP Update 07/01/1996

SITE DESCRIPTION: (general characterization of site - geomorphology, habitat, exposure, currents)

This site extends from the bridge at Isleton to the Delta Cross Channel at Walnut Grove. This site is fully leveed along its length with bench banks on the inside stretches and riprap on outside curves. Most of the riparian vegetation has been removed in riprap areas, but considerable shrub-scrub is found at this site. Occasional sandy beaches and emergent vegetation are found. It is deep and has a strong flow. It is heavily fished throughout the year, particularly when migratory fish are present such as: salmon, steelhead, American shad and striped bass. Two significant side channels branches off at Walnut Grove: Delta Cross Channel and Georgiana Slough.

SEASONAL and SPECIAL RESOURCE CONCERNS (seasonal issues, special status spp present, water intakes)

Winter-run chinook (F/CE) must pass though this site from September through May. High concentrations of other migratory fish are present at various times of the year.

RESOURCES AT RISK

HABITATS AT RISK: (biological habitats including time of year when most sensitive and vulnerable)

Shrubby riparian and emergent growths, steep levees and riprap are the land habitats available. The aquatic habitat is CRITICAL to many migratory species of fish including a proportion of all the salmonid stocks for the Sacramento Valley, striped bass, American shad, and Sacramento splittail.

SPECIES/COMMUNITIES AT RISK (Brief summaries including time of year when most sensitive/vulnerable)

Swainson's hawks (FSC/CT) frequent this site as do many raptors.

In addition to resident warmwater species, this is IMPORTANT habitat to migratory fish species. A proportion of the migratory fish of the Sacramento Valley use this corridor or reside here for some portion of their life-cycle. These include: all the steelhead and salmon stocks (including winter-run chinook (F/CE)), American shad, striped bass, white and green sturgeon, and Sacramento splittail (F/CSC).

This area is commercially fished for crayfish.

CULTURAL and ARCHEOLOGICAL SENSITIVITIES

KEY SITE CONTACTS - type: E-ntry/access; B-iological expertise; L-ogistical; C-ultural; T-rustee; or O-ther assistance

Type	Name	Organization	Phone	FAX
BL	Kent Nelson	Ca Dept of Water Resources	(916) 227-7581	
B	Brenda Grewell	Ca Dept Water Resources	(916) 227-7520	(916) 227-7554
BT	Ed Littrell	Ca Dept. of Fish and Game	(916) 358-2924	(916) 358-2912
TB	Laurie Briden	Dept of Fish and Game Bay/Delta Studies	(209) 944-7800	
TB	Bob Pine	USFWS, Endangered Species	(916) 979-2752	

2-813 –A/C Sacramento River, Isleton-Walnut Grove Reach - Site Strategy

County: Sacramento

CHART: 18662 SACRAMENTO RIVER

Latitude
38 10.5 N

Longitude
121 35.5 W

SITE LOCATION: boundaries, landmarks, area to locate and delimit the site

This site extends from the bridge at Isleton to the Delta Cross Channel at Walnut Grove.

HAZARDS and RESTRICTIONS - Air, Water & Ground - things to beware of when approaching or at site

Aerial traffic beware of power wire crossings over the river; ALSO, TV towers in Walnut Grove area are a severe aerial hazard. Levee roads are narrow with narrow or no shoulders. Steep ripped levees are a hazard to motorists and foot traffic. High boat traffic use and general public use. Narrow road and narrow shoulders creates a hazardous situation. Traffic control should be implemented at this site.

POTENTIAL OIL IMPACTS - CONCERNS/ ADVICE to RESPONDERS: (regarding sensitive species present, penetration into marshes

or sediments, burial, organism burrows, tidal channel spreading, watertable limitations, collateral impacts)

Infiltration of oil into riprap and beaver and invertebrate burrows is likely. Petroleum products are liable to be pumped to neighboring ag lands. Toxic effects on fish life. Penetration in the riprap and potential impacts to riparian habitats.

SITE STRATEGIES

Strategy 2-813.1

(USCG Strategic Objective: 5)

Dates: SISRS Approved last tested ACP date
11/06/1996 07/01/1996

Objective or Prevention Condition

If oil is threatening from north, execute Delta Cross Channel closure, boom Georgiana Slough mouth, and divert oil for collection.

Technique Details

Check here means "No strategy diagram": () Check here means "Contact CCC": ()

1. See sites 2-815, 2-814 for side Cross Channel and Georgiana closures.
2. Using collection, exclusion configuration, set 500 ft of 6X6+ boom across the Sacramento River just downstream from the mouth of the Georgiana Slough mouth. Angle the boom to take advantage of favorable current and wind to drive oil to bank for collection. Set up a land-based skimming operation at the incident levee. Winds will favor the east bank but currents and eddies may drive oil to west

Strategy 2-813.2

(USCG Strategic Objective: 6,5)

Dates: SISRS Approved last tested ACP date
11/06/1996 07/01/1996

Objective or Prevention Condition

For oil spills from the Isleton area, deploy collection, exclusion boom below bridge to intercept oil and prevent spread upstream.

Technique Details

Check here means "No strategy diagram": () Check here means "Contact CCC": ()

Downstream from the Isleton Bridge, deploy 700' 6X6+ collection, exclusion boom across river to direct oil to shore for collection. Generally winds favor collection at the easterly shoreline, but angle to best advantage under existing wind and current (incoming tide) conditions. Use area at grainery for deployment and operations. Set up land-based skimmer. Back with sorbent as necessary.

Table of Response Resources

strategy	hboom	swpbm	xboom	Anchoring	sorb	Bb/skif	skimmers -No	special equip	deploy personnel	tending personnel	SO
2-813.1	500			3/25lb/danforths	500		portable & VT	1	6 PERSON	skimming and checks	5
2-813.2	700			3/25lb/danforth anchors, 200ft line		1/1	portable & VT	1	5 PERSON	skim and watch	6,5

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

This portion of the Sacramento River is accessible by boat from marinas at Walnut Grove and Isleton. Both levees have all weather, all vehicle roads along their lengths, including Hwy 160.

LAND ACCESS LEVEL: (foot only, 2WD, large truck, 4WD, road limitations...seasonal...locked gates)
UNRESTRICTED ACCESS THROUGHOUT

WATER LOGISTICS:

Access limitations: depth, obstructions: GOOD WATER THROUGHOUT
Boat Launching, Loading, Docking Launch facilities are available at Isleton and Walnut Grove.
and Services Available:

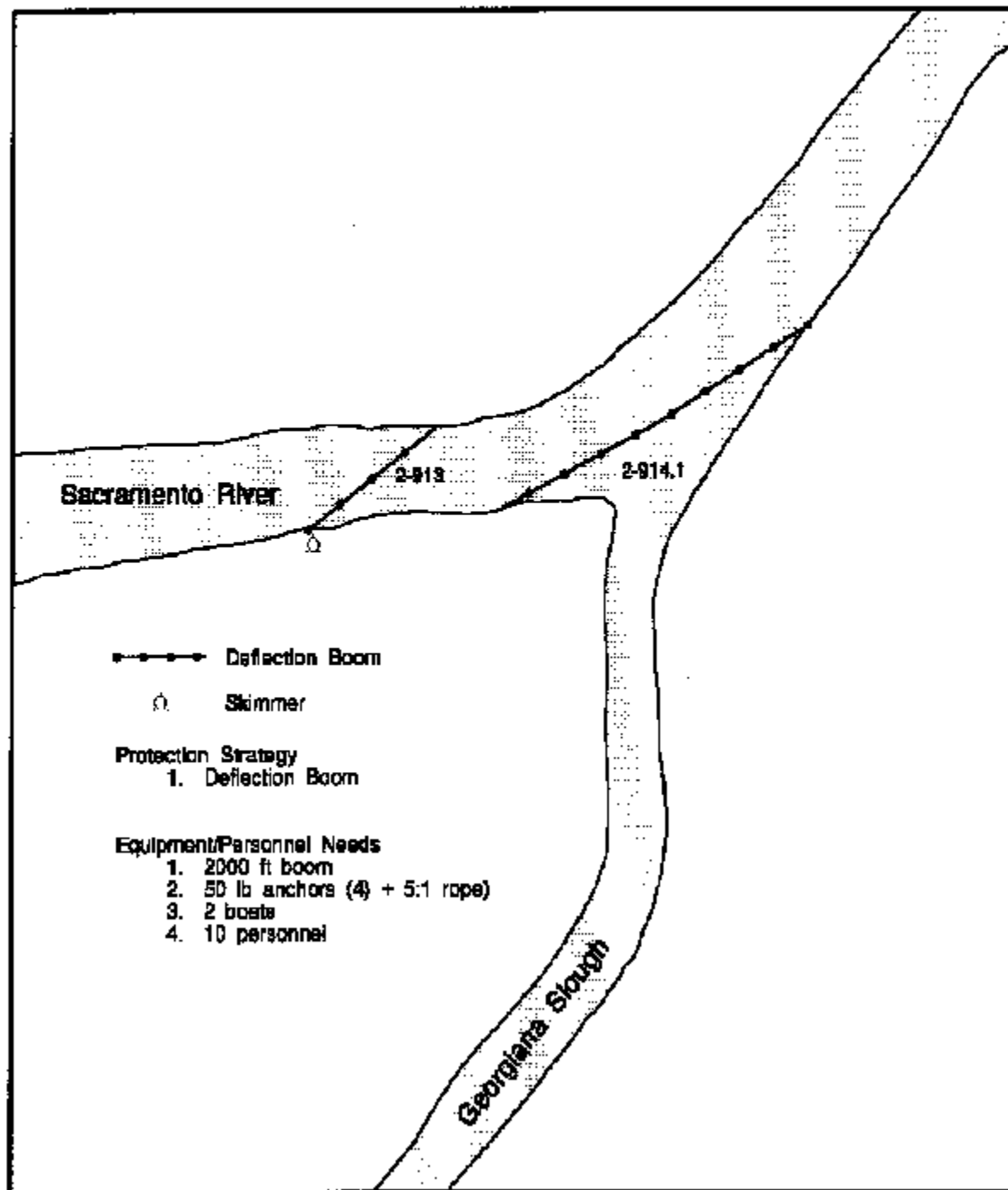
FACILITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

A wide variety of facilities are available at Isleton and Walnut Grove though capacity is limited in these small communities. Sacramento and Rio Vista have full facilities.

COMMUNICATIONS LIMITATIONS / PROBLEMS: No Problems Radio Pager Cell phone

ADDITIONAL COMMENTS

**Protective Strategies
Sacramento River -Isleton/Walnut Grove
SF-813.1 and SF-814.1**



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Georgiana Slough - Site Summary

2-814-A/C

County: Sacramento
USGS: Isleton, Courtland, Rio Vista

GRP: **Latitude** 38 14.2 N **Longitude** 121 31 W
OSPR Map: 165,166,164 **Last ACP Update** 07/01/1996

SITE DESCRIPTION: (general characterization of site - geomorphology, habitat, exposure, currents)

This site extends from its upper mouth just downstream from the Walnut Grove bridge to its lower mouth on the Mokelumne just north of Hwy 12. Georgiana Slough is a winding, leveed waterway which is a side channel of and important by-pass flow management for the Sacramento River. It is deep and swift with few beaches but frequent bench-banks with considerable shrub-scrub and some mature riparian vegetation but little emergent vegetation. Migratory fish wander into this channel and are sidetracked from their normal migration pattern: salmon, steelhead, American shad and striped bass.

SEASONAL and SPECIAL RESOURCE CONCERNS (seasonal issues, special status spp present, water intakes)

Winter-run chinook smolts(F/CE) pass through this site from September through May. High concentrations of migratory fish are present at various times of the year.

RESOURCES AT RISK

HABITATS AT RISK:(biological habitats including time of year when most sensitive and vulnerable)

Shrubby riparian and emergent growths, steep levees and riprap are the land habitats available. Aquatic habitats are limited by swift water and high scouring. Occasional marsh and riparian habitat.

SPECIES/COMMUNITIES AT RISK (Brief summaries including time of year when most sensitive/vulnerable)

Swainson's hawks (FSC/CT) frequent this site as do many raptors.

This area is commercially fished for crayfish.

CULTURAL and ARCHEOLOGICAL SENSITIVITIES

KEY SITE CONTACTS - type: E-ntry/access; B-iological expertise; L-ogistical; C-ultural; T-rustee; or O-ther assistance

Type	Name	Organization	Phone	FAX
BL	Kent Nelson	Ca Dept of Water Resources	(916) 227-7581	
B	Brenda Grewell	Ca Dept Water Resources	(916) 227-7520	(916) 227-7554
BT	Ed Littrell	Ca Dept. of Fish and Game	(916) 358-2924	(916) 358-2912
TB	Laurie Briden	Dept of Fish and Game Bay/Delta Studies	(209) 944-7800	
TB	Bob Pine	USFWS, Endangered Species	(916) 979-2752	

2-814 -AC Georgiana Slough - Site Strategy

County: Sacramento

CHART: 18662 SACRAMENTO RIVER

Latitude
38 14.2 N

Longitude
121 31 W

SITE LOCATION: boundaries, landmarks, area to locate and delimit the site

This site extends from its upper mouth just downstream from the Walnut Grove bridge to its lower mouth on the Mokelumne just north of

HAZARDS and RESTRICTIONS - Air, Water & Ground - things to beware of when approaching or at site

Aerial traffic beware of power wire crossings over the River; ALSO, TV towers in Walnut Grove area are a severe aerial hazard. Levee

POTENTIAL OIL IMPACTS - CONCERNS/ ADVICE to RESPONDERS: (regarding sensitive species present, penetration into marshes

or sediments, burial, organism burrows, tidal channel spreading, watertable limitations, collateral impacts)

Infiltration of oil into riprap and beaver and invertebrate burrows is likely. Petroleum products are liable to be pumped to neighboring ag lands. Toxic effects on fish life. Infiltration of oil into riprap, wetland, and riparian habitat. Occasional marsh/aquatic plants present.

SITE STRATEGIES

Strategy 2-814.1

(USCG Strategic Objective: 5)

Dates: SISRS Approved last tested ACP date
11/06/1996 07/01/1996

Objective or Prevention Condition

For oil coming down Sacramento River from the north, keep oil on the River by setting exclusion-diversion boom across the mouth.

Technique Details

Check here means "No strategy diagram": () Check here means "Contact CCC": ()

Deploy 1200 ft of 8X8+ exclusion-deflection boom at north mouth of Georgian Slough. Anchor one end 600ft+ upstream on the east bank and set the other end 200ft+ downstream of mouth on Andrus Island levee. This long diagonal deployment should allow oil to move past the mouth on both flood and ebb.

Strategy 2-814.3

(USCG Strategic Objective: 5,6)

Dates: SISRS Approved last tested ACP date
11/06/1996 07/01/1996

Objective or Prevention Condition

Flood tide oil threats at the South mouth: deter oil entry by deflection into the channel and exclusion booming across mouth.

Technique Details

Check here means "No strategy diagram": () Check here means "Contact CCC": ()

1. Set 600' 6X6+ exclusion boom across the mouth to maximize collection at most favorable shoreline for land skimming operation (south margin has best access).

2. Deploy five 300' 6X6+ deflection booms from shore at a diagonal into mid-channel from locations downstream from mouth (beginning at bridge abutment); station on-water skimmers to pickup deflected oil. Or, as an alternate, set two skimming boom configurations on bridge piers to feed two skimmers.

Table of Response Resources

strategy	hboom	swpbm	xboom	Anchoring	sorb	Bb/skif	skimmers	-No	special equip	deploy personnel	tending personnel	SO
2-814.1	1200			4/25lb/danforth	500	2/1				6 PERSONS	occasional checks	5
2-814.3	2100			12/25lbs/danforth			portable & VT		1	4-10 PERSONS	1 person full-time	5,6

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

The north mouth accessible by boat from marinas at Walnut Grove and the south mouth from marinas on the Mokelumne River. Both levees have all-weather, all-vehicle roads along most of their lengths: access from Walnut Grove or Isleton (0.5 mi north) to Isleton Road (Andrus Island) or Tyler Island Road (east side).

LAND ACCESS LEVEL: (foot only, 2WD, large truck, 4WD, road limitations...seasonal...locked gates)
UNRESTRICTED ACCESS THROUGHOUT

WATER LOGISTICS:

Access limitations: depth, obstructions: GOOD WATER THROUGHOUT

Boat Launching, Loading, Docking Marina/Launch facilities are available at both mouths. Walnut Grove: Boathouse Marina and
and Services Available: Walnut Grove Marina; Mokelumne at Hwy 12: B&W Marina, Spindrift Marina, Perry's Boat Harbor
and others.

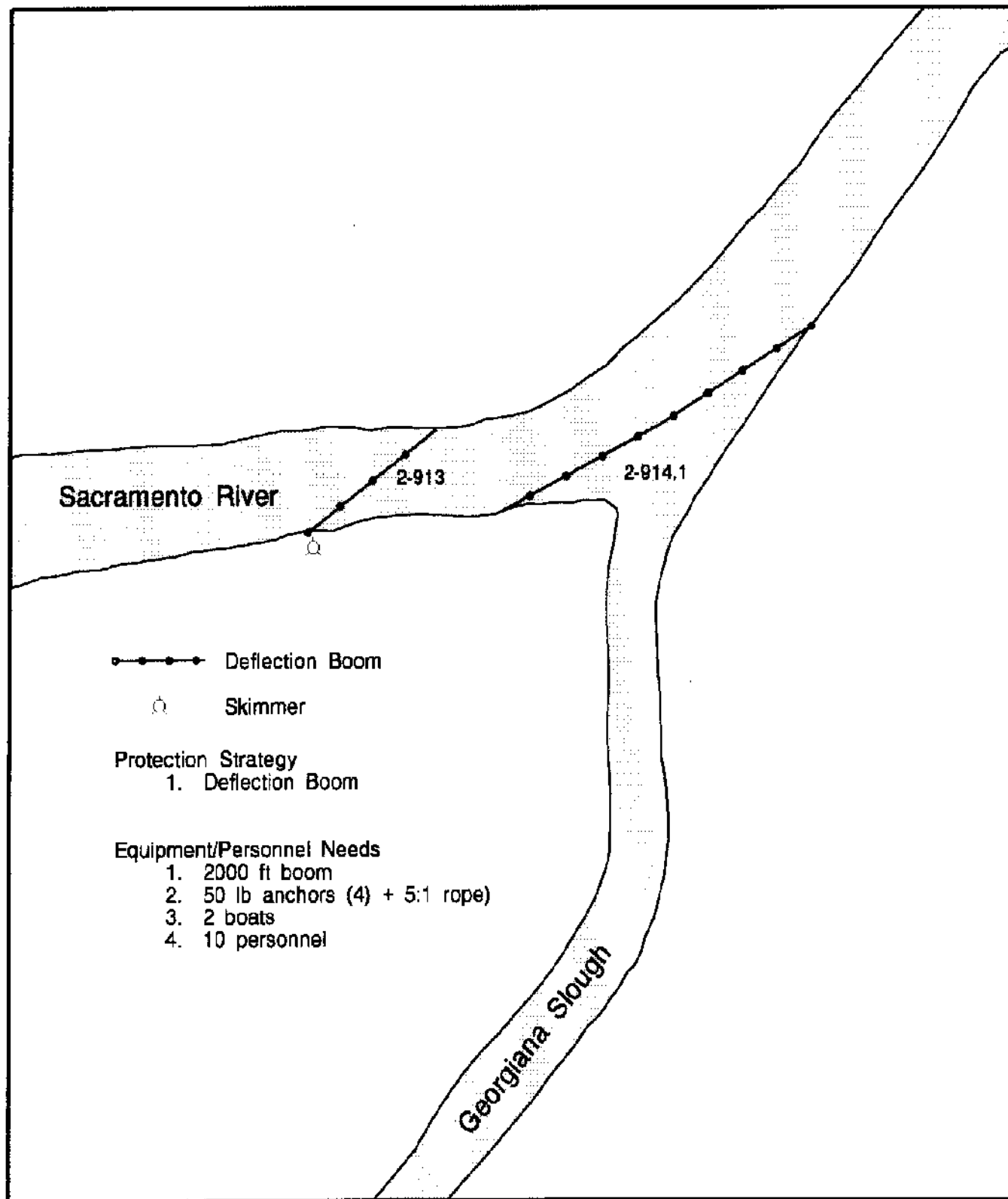
FACILITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

A full range of facilities is available at Walnut Grove except for housing (though in limited quantity). Likewise at the southern mouth or nearby Rio Vista. Camping, cabins and motels are more available at south mouth.

COMMUNICATIONS LIMITATIONS / PROBLEMS: No Problems Radio Pager Cell phone

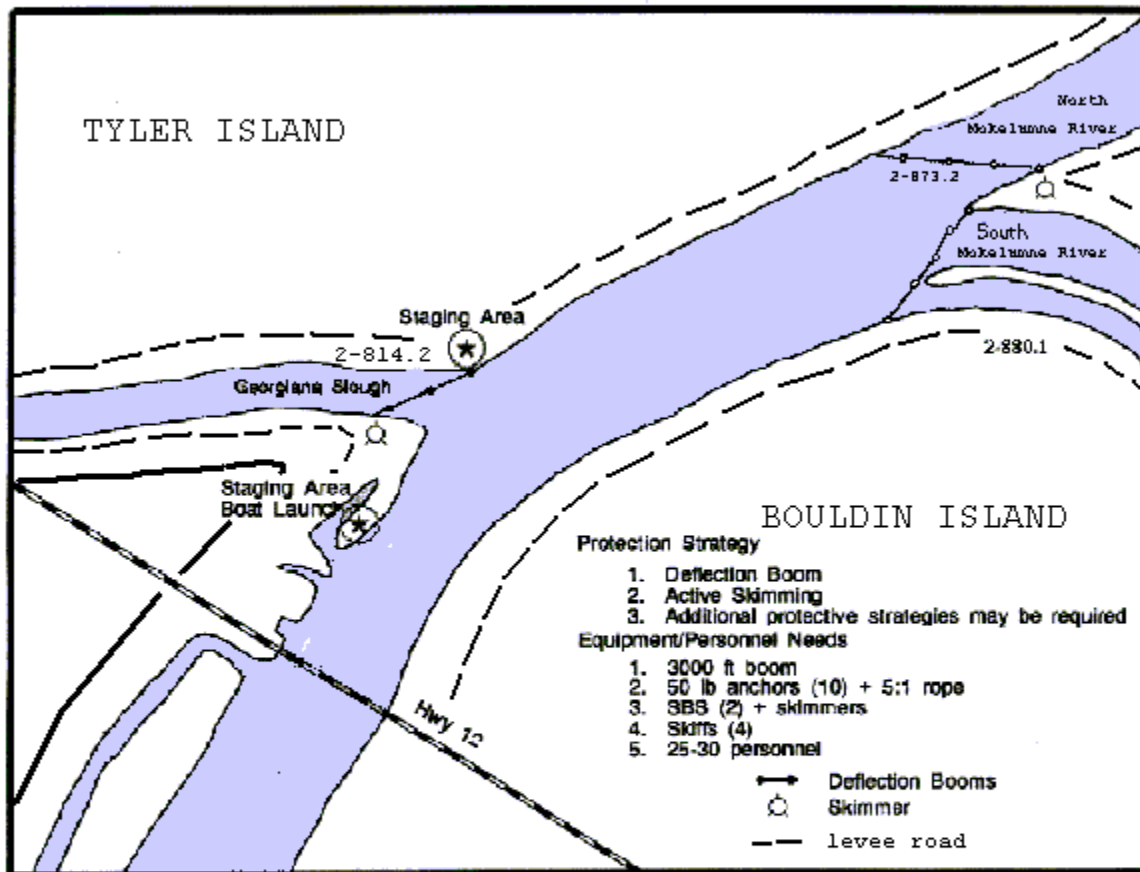
ADDITIONAL COMMENTS

Protective Strategies Georgiana Slough @ Sacramento River SF-814-AC



Protective Strategies Georgiana Slough / N&S Mokelumne River

2-814.2 / 2-873.2 & 2-880.1



Delta Cross Channel / Lower Snodgrass Slough - Site Summary 2-815 -A

County: Sacramento
USGS: Courtland, Bruceville

GRP: **Latitude** 38 14.7 N **Longitude** 121 29.8 W
OSPR Map: 164, xxx **Last ACP Update** 07/01/1996

SITE DESCRIPTION: (general characterization of site - geomorphology, habitat, exposure, currents)

Site extends from its intersection of the Delta Cross Channel and the Sacramento River to Snodgrass Slough and then southward to

the North Mokelumne River. It does not include upper Snodgrass Slough (see 2-916). The site includes the unnamed cut between

Dead Horse Island and McCormick Island. The Delta Cross Channel is key to managing flood flows and water quality in the Delta

since it connects Sacramento River flows to the central Delta via the Mokelumne River. It is strategic to oil spill containment in the

Sacramento River to avoid spread to the central Delta and the Snodgrass Slough complex of wetlands. The gates can cutoff flow

through the channel, providing flood conditions do not demand through-flow.

The lower portion of Snodgrass Slough has rich marsh and riparian growth along its length including channel islands. This habitat is

abounds with aquatic, marsh and terrestrial life.

SEASONAL and SPECIAL RESOURCE CONCERNS (seasonal issues, special status spp present, water intakes)

This marshy area is of A-priority at all times. This is a strategic site for oil spill containment.

RESOURCES AT RISK

HABITATS AT RISK:(biological habitats including time of year when most sensitive and vulnerable)

Shallow water wetlands are throughout the site. Many emergent and woody marshes and wetlands: mature riparian stands are

common. The major concern here is spread of oil to other sensitive areas from the Sacramento River.

SPECIES/COMMUNITIES AT RISK (Brief summaries including time of year when most sensitive/vulnerable)

Area is important for migratory waterfowl and other waterbirds. Raptors, including Swainson's Hawk (F/CT), and riparian species are common.

This is outstanding habitat for semiaquatic mammals such as river otters, beavers, mink and muskrat. Amphibians abound. This may be habitat for western pond turtles.

This is within the zone of highest concern for winter-run chinook from mid September to June. Emergent growth typifies this area.

No sensitive plant species have been recorded here.

CULTURAL and ARCHEOLOGICAL SENSITIVITIES

This is a cultural site.

KEY SITE CONTACTS - type: E-ntry/access; B-iological expertise; L-ogistical; C-ultural; T-rustee; or O-ther assistance

Type	Name	Organization	Phone	FAX
BL	Kent Nelson	Ca Dept of Water Resources	(916) 227-7581	
B	Brenda Grewell	Ca Dept Water Resources	(916) 227-7520	(916) 227-7554
BT	Ed Littrell	Ca Dept. of Fish and Game	(916) 358-2924	(916) 358-2912
TB	Laurie Briden	Dept of Fish and Game Bay/Delta Studies	(209) 944-7800	
O	Robert Clark	North Delta Water Agency	(916) 446-0197	
O	Ops Center Central Valley	US Bureau of Reclamation	(916) 979-3002	
TB	Bob Pine	USFWS, Endangered Species	(916) 979-2752	

2-815 -A Delta Cross Channel / Lower Snodgrass Slough - Site Strategy

County: Sacramento

CHART: 18662 SACRAMENTO RIVER

Latitude
38 14.7 N

Longitude
121 29.8 W

SITE LOCATION: boundaries, landmarks, area to locate and delimit the site

Site extends from its intersection of the Delta Cross Channel and the Sacramento River to Snodgrass Slough and then southward to the North Mokelumne River. It does not include upper Snodgrass Slough (see 2-916). The site includes the unnamed cut between Dead Horse Island and McCormick Island.

HAZARDS and RESTRICTIONS - Air, Water & Ground - things to beware of when approaching or at site

Aerial traffic beware of overhead power wires. Watercraft beware of snags and shallows. Pedestrian hazards include: Poison Oak, riprap, and thick vegetation.

POTENTIAL OIL IMPACTS - CONCERNS/ ADVICE to RESPONDERS: (regarding sensitive species present, penetration into marshes)

Failure to contain oil spread here will result in widespread spill impacts to many other sites. Within the site penetration of oil into riparian growth and wetlands is likely. Oil can penetrate into banks through invertebrate and mammal burrows and tree roots.

SITE STRATEGIES

Strategy 2-815.1

(USCG Strategic Objective: 5)

Dates: SISRS Approved last tested ACP date
11/06/1996 07/01/1996

Objective or Prevention Condition

Prevent oil from entering Delta Cross Channel

Technique Details

Check here means "No strategy diagram": () Check here means "Contact CCC": ()

1. Contact Dept Water Resources and request closure of Delta Cross Channel gates. Back gates with sorbant.
2. If gates cannot be closed, deploy deflection-exclusion boom at mouth and upstream deflection booms: (NOTE: Booming would likely be required only during flood periods when extreme water level fluctuations are common: booms must be rigged to content with level changes.)

A. deploy deflection boom across the Channel mouth into the flow of the Sacramento River in a shallow chevron configuration, to encourage oil to slide past mouth (600' 8X8 exclusion-diversion boom);

B. Deploy two diversion booms from the east side upstream bank, to divert oil away from shoreline and into the center of the current.

Strategy 2-815.2

(USCG Strategic Objective: 6)

Dates: SISRS Approved last tested ACP date
11/06/1996 07/01/1996

Objective or Prevention Condition

If oil enters Delta Cross Channel from the Sacramento River, divert oil to shore for collection and deploy SBS systems.

Technique Details

Check here means "No strategy diagram": () Check here means "Contact CCC": ()

Deploy two or more collection booms across channel on a long diagonal to land-based skimmers at favorable locales (600 ft of 6X6+ each). Anchor near shore leaving a trailing boom length to insure tidal seal. Back with sorbent boom. Move SBS skimming systems into the channel at favorable site to intercept oil if slicks are heavy.

Strategy 2-815.3

(USCG Strategic Objective: 5)

Dates: SISRS Approved last tested ACP date
11/06/1996 07/01/1996

Objective or Prevention Condition

If any oil enters site, close mouth to upper Snodgrass Slough and wetland complex: execute 2-816.1

Technique Details

Check here means "No strategy diagram": () Check here means "Contact CCC": ()

see Snodgrass Slough Complex strategy 2-816.

Table of Response Resources

strategy	hboom	swpbm	xboom	Anchoring	sorb	Bb/skif	skimmers	-No	special equip	deploy personnel	tending personnel	SO
2-815.1	1800			12/50lbs/danforth + chain + line	200	3/1				11 PERSON	yes, careful watch	5
2-815.2		1200		4/25lb/danforths	600	1/1	portable & VT	2		5 PERSONS	skimming and watch	6
2-815.3												5

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Vehicle access to the Cross Channel and Slough is the levee road along the north and south side of the Delta Cross Channel off of Hwy 160; it is unpaved and seasonal. Lower Snodgrass has an unpaved levee road on the Tyler Island shore. By water the site is accessible from the Sacramento River via the Delta Cross Channel or from the Walnut Grove Marina or from New Hope Landing.

Though traffic is only possible when Cross Channel gates are open: gates restrict the height of craft which can pass under.

LAND ACCESS LEVEL: (foot only, 2WD, large truck, 4WD, road limitations...seasonal...locked gates)
LEVEE MAY BE GOOD WHEN DRY

WATER LOGISTICS:

Access limitations: depth, obstructions: GOOD AT MOUTH EXCEPT IN SHALLOW

Boat Launching, Loading, Docking There are several boat launches on each side of the Cross Channel gates: including Boat and Services Available: House, Walnut Grove Marina, New Hope Landing.

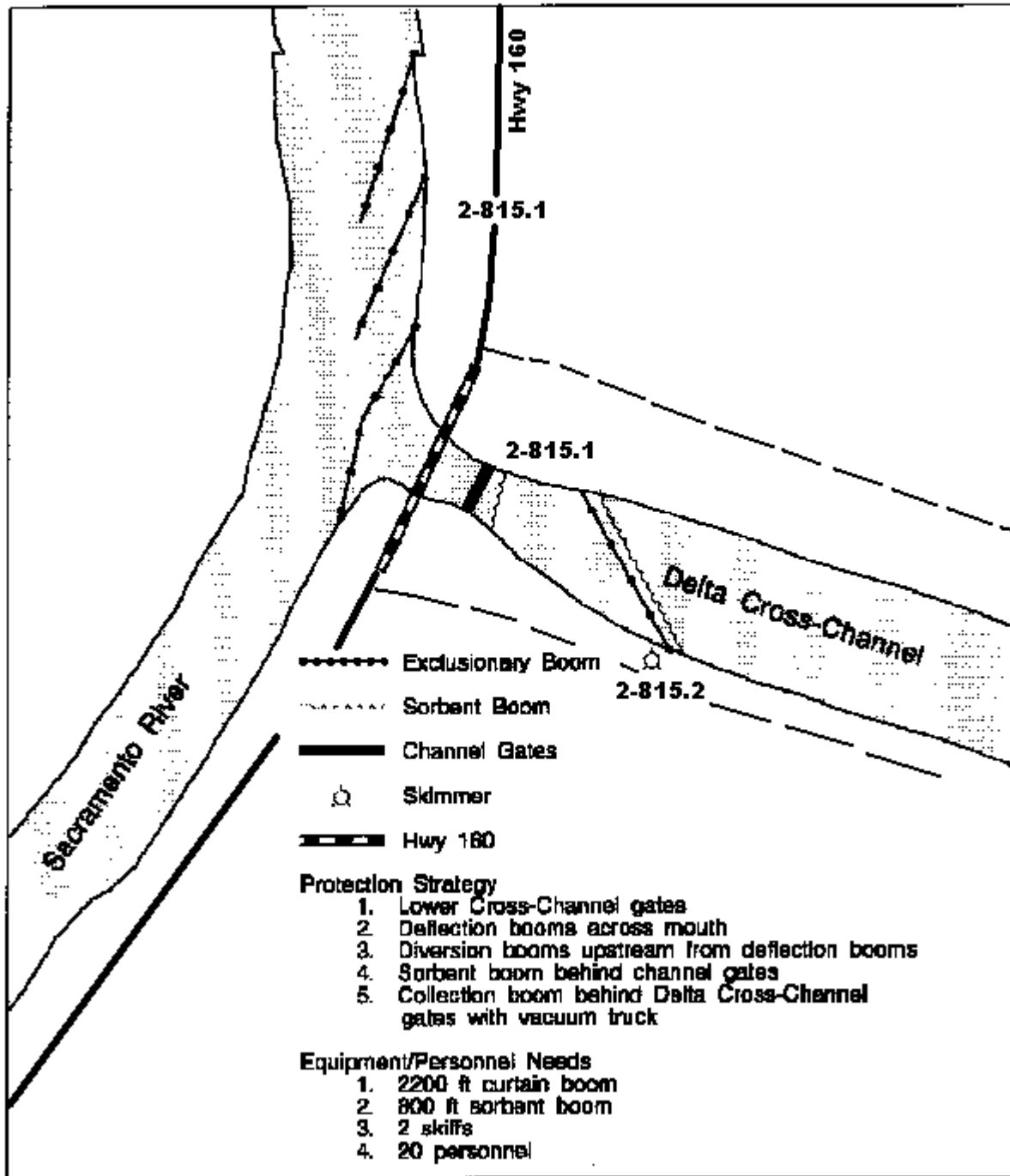
FACILITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

The Cross Channel levees are adequate for land deployment and local staging. Walnut Grove has a wide variety, though limited quantity of resources. Delta Protection Commission Office has phone and fax resources.

COMMUNICATIONS LIMITATIONS / PROBLEMS: No Problems Radio Pager Cell phone

ADDITIONAL COMMENTS

Protective Strategies Delta Cross-Channel / Lower Snodgrass Slough SF-815-A



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Snodgrass Slough Complex - Site Summary

2-816 -A

County: Sacramento
USGS: Courtland, Bruceville

GRP: **Latitude** 38 14.7 N **Longitude** 121 29.8 W
OSPR Map: 164, xxx **Last ACP Update** 07/01/1996

SITE DESCRIPTION: (general characterization of site - geomorphology, habitat, exposure, currents)

Site extends from its intersection with the Delta Cross Channel northerly to its various extremities including the Stone Lake complex.

The site includes the many adjacent marshes. Snodgrass Slough and its many joining sloughs are an extensive complex of marshes

and wetlands that span from the Sacramento levee on the west and north to the Cosumnes River on the east to the Mokelumne

River levee on the south and to Stone Lake to the north. It has extremely rich marsh and riparian growth throughout its length

including many channel islands and adjacent marshes. Very little has intact levees. It has many shallows and snags. This habitat is

abounds with aquatic, marsh and terrestrial life. It is a DMRP designated Natural Resource Area with Significant Habitat Values and

a DFG/NHD designated Significant Natural Area. It is DMRP scenic area and includes portions of Delta Meadows/Lock State

Park.

SEASONAL and SPECIAL RESOURCE CONCERNS (seasonal issues, special status spp present, water intakes)

This marshy area is of "A" priority at all times. This is an extremely sensitive area.

RESOURCES AT RISK

HABITATS AT RISK: (biological habitats including time of year when most sensitive and vulnerable)

Shallow water wetlands are throughout the site. Many emergent and woody marshes and wetlands: mature riparian stands are

common.

SPECIES/COMMUNITIES AT RISK (Brief summaries including time of year when most sensitive/vulnerable)

Area is of major importance to migratory waterfowl and other waterbirds. Raptors, including Swainson's Hawk (F/CT), and riparian species are abundant.

This is outstanding habitat for semiaquatic mammals such as river otters, beavers, mink and muskrat. Amphibians abound. This may be western pond turtles.

It is within the zone of medium concern for winter-run chinook from mid September to June.

Emergent growth typifies this area.

California hibiscus occurs here.

CULTURAL and ARCHEOLOGICAL SENSITIVITIES

This is a cultural site.

KEY SITE CONTACTS - type: E-ntry/access; B-iological expertise; L-ogistical; C-ultural; T-rustee; or O-ther assistance

Type	Name	Organization	Phone	FAX
BL	Kent Nelson	Ca Dept of Water Resources	(916) 227-7581	
TL	Ron Breen	CA Dept Parks & Recreation	(916) 445-7373	
B	Brenda Grewell	Ca Dept Water Resources	(916) 227-7520	(916) 227-7554
BT	Ed Littrell	Ca Dept. of Fish and Game	(916) 358-2924	(916) 358-2912
TB	Laurie Briden	Dept of Fish and Game Bay/Delta Studies	(209) 944-7800	
TB	Bob Pine	USFWS, Endangered Species	(916) 979-2752	

2-816 -A Snodgrass Slough Complex - Site Strategy

County: Sacramento

CHART: 18662 SACRAMENTO RIVER

Latitude
38 14.7 N

Longitude
121 29.8 W

SITE LOCATION: boundaries, landmarks, area to locate and delimit the site

Site extends from its intersection with the Delta Cross Channel northerly to its various extremities including the Stone Lake complex. The site includes the many adjacent marshes.

HAZARDS and RESTRICTIONS - Air, Water & Ground - things to beware of when approaching or at site

Aerial traffic beware of overhead power wires. Watercraft beware of snags and shallows. Pedestrian hazards include: Poison Oak, riprap, and thick vegetation.

POTENTIAL OIL IMPACTS - CONCERNS/ ADVICE to RESPONDERS: (regarding sensitive species present, penetration into marshes

or sediments, burial, organism burrows, tidal channel spreading, watertable limitations, collateral impacts)

The concern is that oil will enter this extensive network of marshes on a flood tide from the Delta Cross Channel. Penetration of oil into wetlands. Penetration of oil into banks through invertebrate and mammal burrows and tree root channels.

SITE STRATEGIES

Strategy 2-816.1

(USCG Strategic Objective: 5)

Dates: SISRS Approved last tested ACP date
11/06/1996 07/01/1996

Objective or Prevention Condition

Prevent oil from moving from/to Snodgrass complex through Delta Cross Channel

Technique Details

Check here means "No strategy diagram": () Check here means "Contact CCC": ()

Contact Dept Water Resources and request closure of Delta Cross Channel gates. Back gates with sorbent.

Deploy 500 ft of 6X6+ curtain boom from north corner of Delta Cross Channel-Snodgrass Slough diagonally southeasterly across Snodgrass Slough. Anchor near shore leaving a trailing boom length to insure tidal seal. Back with sorbent boom.

Table of Response Resources

strategy	hboom	swpbm	xboom	Anchoring	sorb	Bb/skif	skimmers	-No	special equip	deploy personnel	tending personnel	SO
2-816.1		500		2/25lb/danforths	200	1/1						5

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Vehicle to the slough mouth is the levee road along the north side of the Delta Cross Channel off of Hwy 160; it is unpaved and seasonal. There is very little vehicular access. By water the site is accessible from the Sacramento River via the Delta Cross Channel or from the Walnut Grove Marina or from New Hope Landing.

LAND ACCESS LEVEL: (foot only, 2WD, large truck, 4WD, road limitations...seasonal...locked gates)
LEVEE MAY BE GOOD WHEN DRY

WATER LOGISTICS:

Access limitations: depth, obstructions: GOOD AT MOUTH EXCEPT IN SHALLOW

Boat Launching, Loading, Docking There are several boat launches on each side of the Cross Channel gates: including Boat and Services Available: House, Walnut Grove Marina, New Hope Landing.

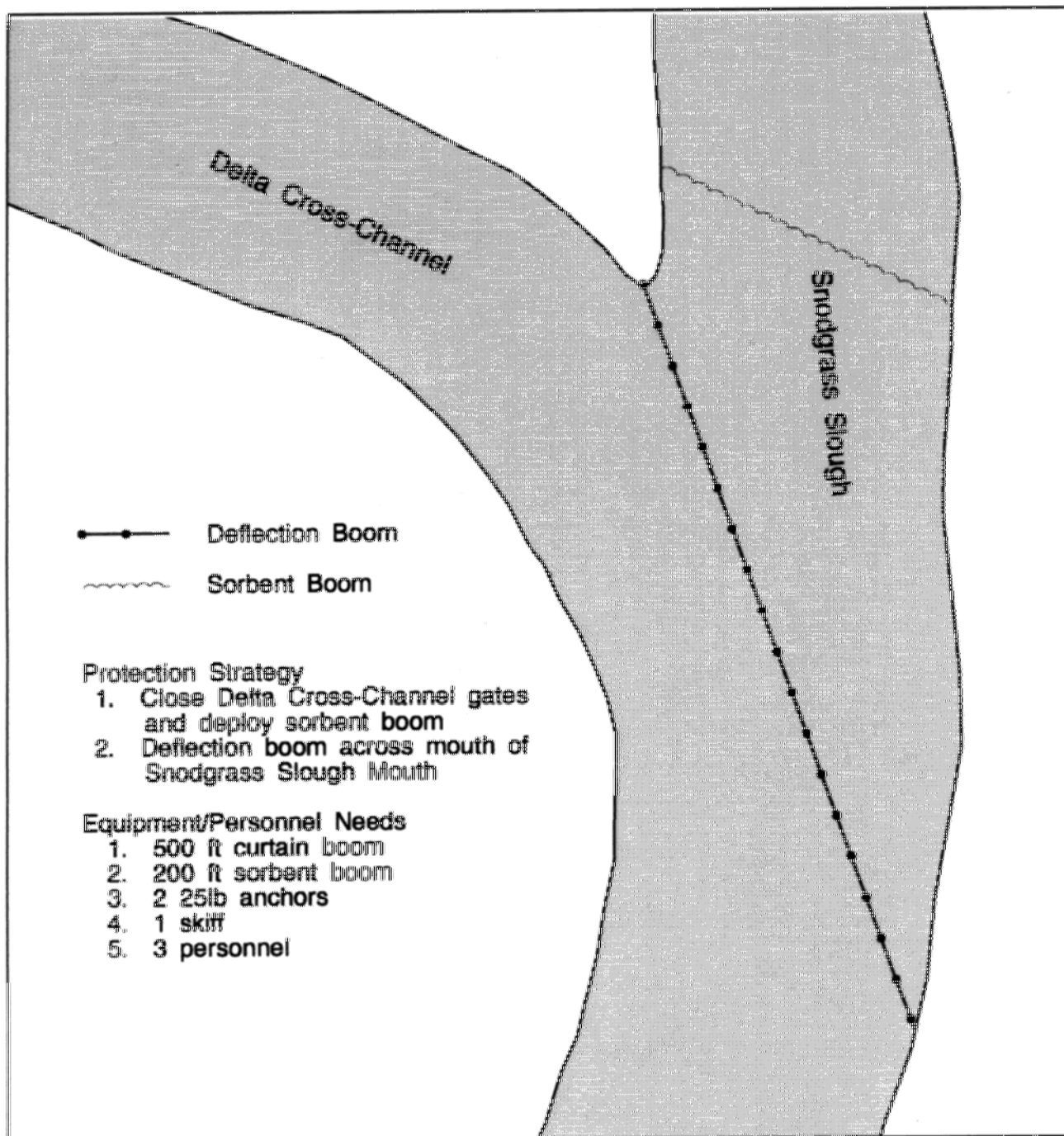
FACILITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

The Cross Channel levees are adequate for land deployment and local staging. Walnut Grove has a wide variety, though limited quantity of resources. Delta Protection Commission Office has phone and fax resources.

COMMUNICATIONS LIMITATIONS / PROBLEMS: No Problems Radio Pager Cell phone

ADDITIONAL COMMENTS

Protective Strategies Snodgrass Slough Complex SF-816-A



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Stone Lake Complex - Site Summary

2-818 -A

County: Sacramento
USGS: Courtland, Bruceville

GRP: Latitude 38 20 N Longitude 121 30 W
OSPR Map: Last ACP Update

SITE DESCRIPTION: (general characterization of site - geomorphology, habitat, exposure, currents)

Old overflow basins, with diversity of habitat types; lakes, freshwater marshes, riparian trees and bushes, grassland, quiet sloughs.

SEASONAL and SPECIAL RESOURCE CONCERNS (seasonal issues, special status spp present, water intakes)

The site is an "A" priority year-round. Several Special Status Species occur here.

RESOURCES AT RISK

HABITATS AT RISK:(biological habitats including time of year when most sensitive and vulnerable)

This extensive freshwater marsh system is good habitat for marsh birds and mammals of all kinds. This is nesting and foraging habitat

for all manner of waterfowl and marsh birds. The marsh also supports a wide diversity of marsh mammals and other vertebrates.

Specialized habitat for the threatened and endangered giant garter snake, and the slough thistle. Great Blue Heron and Egret rookeries. One of the most important ecological complexes in the Delta. The area is of major importance to migratory waterfowl.

Many archaeological sites.

SPECIES/COMMUNITIES AT RISK (Brief summaries including time of year when most sensitive/vulnerable)

CULTURAL and ARCHEOLOGICAL SENSITIVITIES

KEY SITE CONTACTS - type: E-ntry/access; B-iological expertise; L-ogistical; C-ultural; T-rustee; or O-ther assistance

Type	Name	Organization	Phone	FAX
BL	Kent Nelson	Ca Dept of Water Resources	(916) 227-7581	
B	Brenda Grewell	Ca Dept Water Resources	(916) 227-7520	(916) 227-7554
TB	Ed Littrell	Ca Dept. of Fish and Game	(916) 358-2924	(916) 358-2912
TB	Laurie Briden	Dept of Fish and Game Bay/Delta Studies	(209) 944-7800	
TB	Bob Pine	USFWS, Endangered Species	(916) 979-2752	

2-818 -A Stone Lake Complex - Site Strategy

County: Sacramento

CHART: 18662 SACRAMENTO RIVER

Latitude
38 20 N

Longitude
121 30 W

SITE LOCATION: boundaries, landmarks, area to locate and delimit the site

HAZARDS and RESTRICTIONS - Air, Water & Ground - things to beware of when approaching or at site

Boat traffic beware of shallows, many snags and mud bars. Poison Oak.

POTENTIAL OIL IMPACTS - CONCERNS/ ADVICE to RESPONDERS: (regarding sensitive species present, penetration into marshes
or sediments, burial, organism burrows, tidal channel spreading, watertable limitations, collateral impacts)

SITE STRATEGIES **NO STRATEGY HAS BEEN DEVELOPED**

Table of Response Resources

strategy	hboom	swpbm	xboom	Anchoring	sorb	Bb/skif	skimmers	-No	special equip	deploy personnel	tending personnel	SO
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LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Access: Highway 160 from Walnut Grove or Sacramento to Hood Franklin Rd. Go east on Hood Franklin Rd. to Stone Lake complex.

LAND ACCESS LEVEL: (foot only, 2WD, large truck, 4WD, road limitations...seasonal..locked gates)

WATER LOGISTICS:

Access limitations: depth, obstructions:

Boat Launching, Loading, Docking

and Services Available:

FACILITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

COMMUNICATIONS LIMITATIONS / PROBLEMS: No Problems Radio Pager Cell phone

ADDITIONAL COMMENTS

Stone Lake Complex - NO Strategy Diagram

Sacramento River, Courtland-Sacramento Reach - Site Summary 2-820-A/C

County: Sacramento
USGS: Clarksburg, W Sacramento, Courtland

GRP: Latitude 38 21 N Longitude 121 32 W
OSPR Map: 164 Last ACP Update 07/01/1996

SITE DESCRIPTION: (general characterization of site - geomorphology, habitat, exposure, currents)

This site extends from Sacramento (the Hwy 50 bridge over the Sacramento River) downstream to the Delta Cross Channel at Walnut Grove. This site is fully leveed along its length with riprap. Most of the riparian vegetation has been removed though remnants remain. Occasional sandy beaches and emergent vegetation are found in the upper portion. It is deep and has a strong flow. It is heavily fished throughout the year and particularly when migratory fish are present: salmon, steelhead, American Shad and striped bass. Several significant channels branch off: Steamboat Slough, Sutter Slough, Delta Cross Channel, Sacramento Ship Channel Locks.

SEASONAL and SPECIAL RESOURCE CONCERNS (seasonal issues, special status spp present, water intakes)

Winter run chinook (F/CE) must pass though this site from September through May. High concentrations of migratory fish are present at various times of the year.

RESOURCES AT RISK

HABITATS AT RISK:(biological habitats including time of year when most sensitive and vulnerable)

Occasional riparian and emergent growths and steep levees and riprap are the habitats available. The aquatic habitat is CRITICAL to many migratory species of fish including all the salmonid stocks for the Sacramento Valley, striped bass, American Shad, and Sacramento splittail.

SPECIES/COMMUNITIES AT RISK (Brief summaries including time of year when most sensitive/vulnerable)

Swainson's hawk (FSC/CT) frequent this site at multiple locations. This channel is of moderate importance to many other bird species.

In addition to resident warmwater species, this is CRITICAL Habitat to migratory species of fish. All the migratory fish of the Sacramento Valley use this corridor or reside here for some portion of their life cycle. These include: all the steelhead and salmon stocks (including winter-run chinook (F/CE)), American shad, striped bass, white and green sturgeon, and Sacramento splittail (F/CSC).

This area is commercially fished for crayfish.

CULTURAL and ARCHEOLOGICAL SENSITIVITIES

KEY SITE CONTACTS - type: E-ntry/access; B-iological expertise; L-ogistical; C-ultural; T-rustee; or O-ther assistance

Type	Name	Organization	Phone	FAX
BL	Kent Nelson	Ca Dept of Water Resources	(916) 227-7581	
B	Brenda Grewell	Ca Dept Water Resources	(916) 227-7520	(916) 227-7554
BT	Ed Littrell	Ca Dept. of Fish and Game	(916) 358-2924	(916) 358-2912
TB	Laurie Briden	Dept of Fish and Game Bay/Delta Studies	(209) 944-7800	
O	Robert Clark	North Delta Water Agency	(916) 446-0197	
TB	Bob Pine	USFWS, Endangered Species	(916) 979-2752	

2-820 -A/C Sacramento River, Courtland-Sacramento Reach - Site Strategy

County: Sacramento

CHART: 18662 SACRAMENTO RIVER

Latitude
38 21 N

Longitude
121 32 W

SITE LOCATION: boundaries, landmarks, area to locate and delimit the site

This site extends from Sacramento (the Hwy 50 bridge over the Sacramento River) downstream to the Delta Cross Channel at Walnut

HAZARDS and RESTRICTIONS - Air, Water & Ground - things to beware of when approaching or at site

Aerial traffic beware of power wire crossings over the River; ALSO, TV towers in Walnut Grove area are a severe aerial hazard. Levee roads are narrow with narrow or no shoulders. Steep ripped levees are a hazard to motorists and foot traffic. High boat traffic use and

POTENTIAL OIL IMPACTS - CONCERNS/ ADVICE to RESPONDERS: (regarding sensitive species present, penetration into marshes

or sediments, burial, organism burrows, tidal channel spreading, watertable limitations, collateral impacts)

Infiltration of oil into riprap and beaver and invertebrate burrows is likely. Petroleum products are liable to be pumped to neighboring ag lands. Toxic effects on fish life.

SITE STRATEGIES

Strategy 2-820.1

(USCG Strategic Objective: 5,6)

Dates: SISRS Approved last tested ACP date
11/06/1996 07/01/1996

Objective or Prevention Condition

If oil is in the River above the locks, at Miller Park area implement catchment booms to ground oil on sandy beach and skim.

Technique Details

Check here means "No strategy diagram": () Check here means "Contact CCC": ()

1. Prepare beach just down stream from marina mouth for oil collection: preclean beach.
2. Set a diversion boom at a long diagonal across the river to land oil on beach near marina mouth. Lay 3000 ft of 6X6+ diversion boom from west bank levee to the east side beach. Establish land-based skimmer at beach intercept.
3. Block marina 400ft 4X4+ with curtain boom. Back with sorbent as necessary.
4. Block the river mouth of the Channel locks. Block with 1000ft of 4X4+ exclusion boom. Back with 300 ft of sorbent boom.

Strategy 2-820.2

(USCG Strategic Objective: 6)

Dates: SISRS Approved last tested ACP date
11/06/1996 07/01/1996

Objective or Prevention Condition

Divert oil to riprap/beach shore for collection where logistics and prevailing conditions permit oil interception and collection.

Technique Details

Check here means "No strategy diagram": () Check here means "Contact CCC": ()

Deploy deflection booms across main channel on a long diagonal to divert oil onto most favorable riverbank for collection. Deploy land-based skimmer from levee access.

Table of Response Resources

strategy	hboom	swpbm	xboom	Anchoring	sorb	Bb/skif	skimmers -No	special equip	deploy personnel	tending personnel	SO
2-820.1	4400			7/50lbs/danforth anchors	700	2/1	portable & VT	1	20 -30	skimming and watch.	5,6
2-820.2	3000			7/50 lb/danforth, 200ft line		2/2	portable & VT		8	skimming/close check	6

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Sacramento River is accessible by boat from a number of marinas throughout its length. Both levees have all weather, all vehicle roads along most of its length, including Hwy 160.

LAND ACCESS LEVEL: (foot only, 2WD, large truck, 4WD, road limitations...seasonal..locked gates)
UNRESTRICTED ACCESS THROUGHOUT

WATER LOGISTICS:

Access limitations: depth, obstructions: GOOD WATER THROUGHOUT
Boat Launching, Loading, Docking Sacramento Marina and Miller Park boat ramp provide numerous boat launching opportunities.
and Services Available: A crane was observed on west shore in the channel lock compound. Various marinas along river.

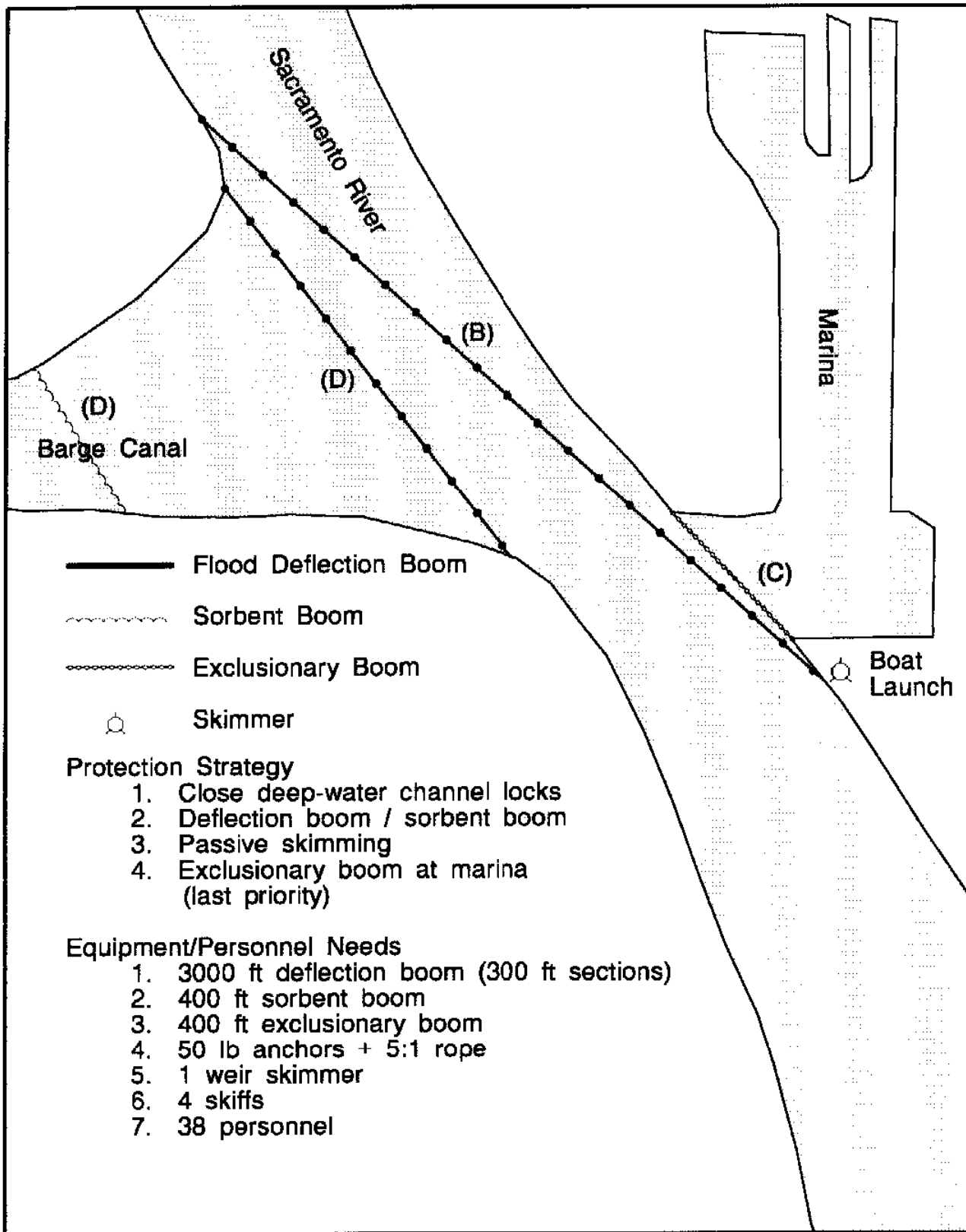
FACILITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Excellent staging areas at marina and park. Amenities include launch facility, fuel docks, large paved staging area, restrooms, electricity, lights and nearby pay phones. Small towns along river provide limited services.

COMMUNICATIONS LIMITATIONS / PROBLEMS: No Problems Radio Pager Cell phone

ADDITIONAL COMMENTS

Protective Strategies Sacramento Reach SF-820.1-A



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Steamboat Slough - Site Summary

2-830 -A

County: Sacramento, Solano
USGS: Courtland, Isleton, Rio Vista

GRP: **Latitude** 38 18.3 N **Longitude** 121 34.5 W
OSPR Map: 164,166,165 **Last ACP Update** 07/01/1996

SITE DESCRIPTION: (general characterization of site - geomorphology, habitat, exposure, currents)

Site extends from its mouth on the Sacramento River near Courtland to its mouth on Cache Slough at the tips of Grand and Ryer Islands. Sutter Slough connects at mid-length. This Slough is a north-south (shortcut) side channel of the Sacramento River. It has abrupt steep levees with occasional water side benches and beaches. Much of its length is ripped but it has mature and shrub-scrub riparian growth at its northerly and southerly reaches. The southerly portion has been designated (DMRP and DFG/NHD) as having outstanding habitat values. The site is a DMRP designated scenic area.

SEASONAL and SPECIAL RESOURCE CONCERNS (seasonal issues, special status spp present, water intakes)

Marsh and riparian growths here have "A" priority year around. Significant and Special Status Species occur here, including important fish stocks, an endangered fish and three rare plants.

RESOURCES AT RISK

HABITATS AT RISK:(biological habitats including time of year when most sensitive and vulnerable)

Dense riparian and emergent growths in the north and south reaches are very significant and sensitive. Riprap and grassy steep levees in mid portion. The aquatic habitat is CRITICAL to many migratory species of fish including a high proportion of the salmonid stocks for the Sacramento Valley, striped bass, American shad, and Sacramento splittail.

SPECIES/COMMUNITIES AT RISK (Brief summaries including time of year when most sensitive/vulnerable)

Swainson's hawk (FSC/CT) frequent this site at multiple locations. This channel is of moderate importance to many other bird species.

In addition to resident warmwater species, this is CRITICAL habitat to migratory species of fish. A high proportion of the migratory fish of the Sacramento Valley use this corridor or reside here for some portion of their life-cycle. These include: all the steelhead and salmon stocks (including winter-run chinook (F/CE)), American shad, striped bass, white and green sturgeon, and Sacramento splittail (F/CSC). There is very great concern for winter-run chinook smolts from mid-September through May.

This channel is commercially fished for crayfish.

Riparian growth is of key importance here. Sensitive plant species present include: Mason's lilaeopsis (FSC/CR), Delta tule pea (F/CSC), Sanford's arrowhead (F/CSC).

CULTURAL and ARCHEOLOGICAL SENSITIVITIES

This is a cultural site.

KEY SITE CONTACTS - type: E-ntry/access; B-iological expertise; L-ogistical; C-ultural; T-rustee; or O-ther assistance

Type	Name	Organization	Phone	FAX
BL	Kent Nelson	Ca Dept of Water Resources	(916) 227-7581	
B	Brenda Grewell	Ca Dept Water Resources	(916) 227-7520	(916) 227-7554
BL	Ed Littrell	Ca Dept. of Fish and Game	(916) 358-2924	(916) 358-2912
TB	Laurie Briden	Dept of Fish and Game Bay/Delta Studies	(209) 944-7800	
O	Robert Clark	North Delta Water Agency	(916) 446-0197	
TB	Bob Pine	USFWS, Endangered Species	(916) 979-2752	

2-830 -A Steamboat Slough - Site Strategy

County: Sacramento, Solano

CHART: 18662 SACRAMENTO RIVER

Latitude
38 18.3 N

Longitude
121 34.5 W

SITE LOCATION: boundaries, landmarks, area to locate and delimit the site

Site extends from its mouth on the Sacramento River near Courtland to its mouth on Cache Slough at the tips of Grand and Ryer Islands. Sutter Slough connects at mid-length.

HAZARDS and RESTRICTIONS - Air, Water & Ground - things to beware of when approaching or at site

Aerial traffic beware of overhead power wires and TV towers in Walnut Grove vicinity. Narrow road, narrow bridges, and narrow shoulders with riparian vegetation makes this site a dangerous hazard. Traffic control should be implemented at this site. Bridge height is 14' 6". Narrow road and narrow shoulders creates a hazardous situation. Loose footing near water.

POTENTIAL OIL IMPACTS - CONCERNS/ ADVICE to RESPONDERS: (regarding sensitive species present, penetration into marshes

or sediments, burial, organism burrows, tidal channel spreading, watertable limitations, collateral impacts)

Infiltration of oil into riprap and into levees via invertebrate, muskrat and beaver burrows. Penetration and potential impacts to riparian habitats.

SITE STRATEGIES

Strategy 2-830.1

(USCG Strategic Objective: 5,6)

Dates: SISRS Approved last tested ACP date
11/06/1996 07/01/1996

Objective or Prevention Condition

At the Sacramento mouth, exclude oil movement down Slough and divert it to shore-side collection using deflection-exclusion boom.

Technique Details

Check here means "No strategy diagram": () Check here means "Contact CCC": ()

1. Lay 600' 6X6 deflection boom from a point up the Sacramento from marina docks above the mouth at a downstream 45 degree angle to mid-channel to divert oil away from slough mouth. Back with sorbent.
2. Deploy exclusion-collection boom across Steamboat Slough at a slight angle to take advantage of eddying along the north bank.
3. Deploy absorbent booms behind exclusionary booms to capture oil streamers.
4. Establish land-based skimming unit to collect accumulating oil.

Strategy 2-830.2

(USCG Strategic Objective: 5)

Dates: SISRS Approved last tested ACP date
11/06/1996 07/01/1996

Objective or Prevention Condition

Steamboat Slough south mouth on Cache Slough, prevent oil entry into slough on incoming tides by exclusion and by diversion past.

Technique Details

Check here means "No strategy diagram": () Check here means "Contact CCC": ()

Set 500' 8X8+ diversion/exclusion boom in a shallow chevron to shunt oil past mouth and simultaneously block its entry. Anchor near shore and leave a trailing boom length to insure tidal seal. Back with sorbent boom.

Table of Response Resources

strategy	hboom	swpbm	xboom	Anchoring	sorb	Bb/skif	skimmers -No	special equip	deploy personnel	tending personnel	SO
2-830.1		1300		3/25lb+4/40lb/danforth	500	1/1	portable & VT	1	7-12 PERSONNEL	skimming + checking	5,6
2-830.2	500			5/25lb/danforth	500	1.1			5 PERSONNEL	Yes	5

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

By water, site is accessible via its northerly mouth on the Sacramento River just south of Sutter Slough (Courtland) or via its southerly mouth just east of the Ryer Island Ferry (hwy 84) on Cache Slough. Best vehicle access is Grand Island Road off Hwy 160.

LAND ACCESS LEVEL: (foot only, 2WD, large truck, 4WD, road limitations...seasonal...locked gates)
ALL WEATHER/ALL TRAFFIC ROADS

WATER LOGISTICS:

Access limitations: depth, obstructions: DEEP, FEW SNAGS OR SHALLOWS

Boat Launching, Loading, Docking Courtland Docks and Morgan Landing closest northerly boating facility. Snug Harbor, Rio Vista and Services Available: or Real McCoy ferry landing are nearest launch point to south.

FACILITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

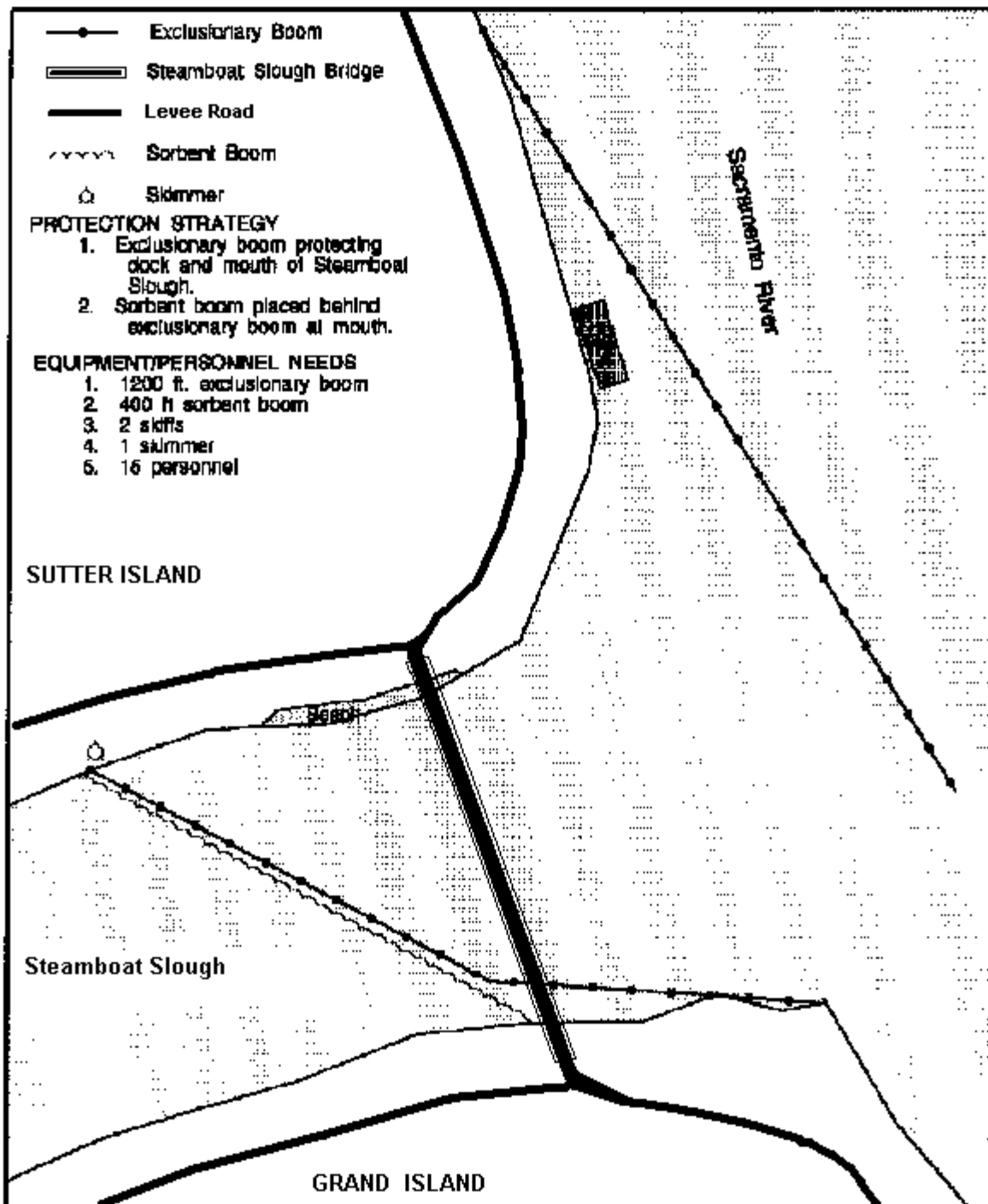
Steamboat Landing is the nearest facility. Small front parking lot available but not convenient for large-scale deployment. Stairs available for beach access. Hidden Harbor and Snug Harbor closest facilities. Rio Vista has best service for south mouth. Deployment at south mouth may be staged at ferry landing or local marinas.

COMMUNICATIONS LIMITATIONS / PROBLEMS:

No Problems Radio Pager Cell phone

ADDITIONAL COMMENTS

Protective Strategies Steamboat Slough North SF-830.1-A



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Sutter Slough - Site Summary

2-832 -A/B

County: Sacramento, Solano, Yolo County
USGS: Courtland

GRP: 8 **Latitude** 38 19.7 N **Longitude** 121 34.5 W
OSPR Map: 164 **Last ACP Update** 07/01/1996

SITE DESCRIPTION: (general characterization of site - geomorphology, habitat, exposure, currents)

Sutter Slough is a side channel of the Sacramento River and flows to Steamboat Slough. It is bordered on the east side by Sutter

Island. It is relatively narrow slough with mature and shrub-scrub riparian growth mix along steep and partially ripped levees. Strong

currents are common; the channel is deep though encroached upon by riparian growth. Several significant side sloughs intersect:

Elk Slough and Miner Slough. This is an important pathway for migratory fish.

SEASONAL and SPECIAL RESOURCE CONCERNS (seasonal issues, special status spp present, water intakes)

This riparian area is of "A" priority at all times. Winter-run chinook smolts are of great concern from Sept through May.

RESOURCES AT RISK

HABITATS AT RISK:(biological habitats including time of year when most sensitive and vulnerable)

Dense riparian and emergent growths in the northerly part; less so in southerly half. The aquatic habitat is CRITICAL to many

migratory species of fish including all the salmonid stocks for the Sacramento Valley, striped bass, American Shad, and Sacramento splittail.

SPECIES/COMMUNITIES AT RISK (Brief summaries including time of year when most sensitive/vulnerable)

Area is to migratory waterfowl and other waterbirds. Raptors and riparian species are abundant, particularly Swainson's hawk (F/CT).

Good habitat for riparian birdlife.

In addition to resident warmwater species, this is CRITICAL Habitat to migratory species of fish. A portion of the migratory fish of the

Sacramento Valley use this corridor or reside here for some portion of their life cycle. These include: all the steelhead and salmon

stocks (including winter-run chinook (F/CE)), American shad, striped bass, white and green sturgeon, and Sacramento splittail (F/CSC).

This channel is fished commercially for crayfish.

There are numerous stands of elderberry making this potential habitat for (FT) valley elderberry longhorned beetle.

CULTURAL and ARCHEOLOGICAL SENSITIVITIES

KEY SITE CONTACTS - type: E-ntry/access; B-iological expertise; L-ogistical; C-ultural; T-rustee; or O-ther assistance

Type	Name	Organization	Phone	FAX
BL	Kent Nelson	Ca Dept of Water Resources	(916) 227-7581	
B	Brenda Grewell	Ca Dept Water Resources	(916) 227-7520	(916) 227-7554
BT	Ed Littrell	Ca Dept. of Fish and Game	(916) 358-2924	(916) 358-2912
TB	Laurie Briden	Dept of Fish and Game Bay/Delta Studies	(209) 944-7800	
O	Robert Clark	North Delta Water Agency	(916) 446-0197	
TB	Bob Pine	USFWS, Endangered Species	(916) 979-2752	

2-832 –A/B Sutter Slough - Site Strategy

County: Sacramento, Solano, Yolo

CHART: 18662 SACRAMENTO RIVER

Latitude
38 19.7 N

Longitude
121 34.5 W

SITE LOCATION: boundaries, landmarks, area to locate and delimit the site

Sutter Slough is a side channel of the Sacramento River and flows to Steamboat Slough. It is bordered on the east side by Sutter Island.

HAZARDS and RESTRICTIONS - Air, Water & Ground - things to beware of when approaching or at site

Narrow road, narrow bridge, and narrow shoulders with riparian vegetation makes this site a dangerous hazard. Traffic control should be implemented at this site. Aerial traffic should note power wire crossings and TV towers in the vicinity.

POTENTIAL OIL IMPACTS - CONCERNS/ ADVICE to RESPONDERS: (regarding sensitive species present, penetration into marshes

or sediments, burial, organism burrows, tidal channel spreading, watertable limitations, collateral impacts)

Infiltration of oil into riprap and also into levees via invertebrate and beaver burrows. Difficult cleanup of riparian vegetation. Toxicity to riparian growth and migratory fish.

SITE STRATEGIES

Strategy 2-832.1

(USCG Strategic Objective: 5,6)

Dates: SISRS Approved last tested ACP date
11/06/1996 07/01/1996

Objective or Prevention Condition

Exclude oil and divert to shore for collection, for oil threats to Sacramento mouth.

Technique Details

Check here means "No strategy diagram": () Check here means "Contact CCC": ()

1. Deploy exclusion-collection boom across Sutter Slough mouth using the bridge pier as anchor point. Deploy at an angle to take advantage of local eddy (which tends to be inside mouth along northside levee).
2. Deploy double sorbent booms behind exclusionary booms to capture oil streamers.
3. Establish land based skimming operation to collect oil.

Strategy 2-832.2

(USCG Strategic Objective: 7,6)

Dates: SISRS Approved last tested ACP date
11/06/1996 07/01/1996

Objective or Prevention Condition

For oil threats from upstream, deploy deflection boom above the Sacramento mouth to keep oil to mid channel and away from mouth.

Technique Details

Check here means "No strategy diagram": () Check here means "Contact CCC": ()

From a point 300 feet upstream from mouth on the west bank of the Sacramento River, deploy 600ft of 6X6+ deflection boom to mid channel at a 45 degree angle.

Strategy 2-832.3

(USCG Strategic Objective: 5)

Dates: SISRS Approved last tested ACP date
11/06/1996 07/01/1996

Objective or Prevention Condition

For the south mouth on Steamboat Slough, set exclusion boom to halt oil spread on a flood tide.

Technique Details

Check here means "No strategy diagram": () Check here means "Contact CCC": ()

Deploy 500' 6X6+ boom across the mouth. Anchor one end 100' up Steamboat slough near the Sutter Island levee and the other downstream from the mouth, leaving trailing boom lengths to ensure a tidal seal.

Table of Response Resources

strategy	hboom	swpbm	xboom	Anchoring	sorb	Bb/skif	skimmers -No	special equip	deploy personnel	tending personnel	SO
2-832.1	500			2/25lb danforth anchors	1000	0/1	portable & VT		6 PERSONNEL	skimming and checks	5,6
2-832.2	600			3/40lb/danforths		0/1			3	regular inspection	7,6
2-832.3	500			2/25lb/danforth	100	0/1			2	occasional checks	5

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

By water, Sutter Slough branches off the Sacramento River just south of Courtland and rejoins Steamboat Slough at mid-length. The all weather levee road on Sutter Island is accessible from Hwy 160 opposite Courtland.

LAND ACCESS LEVEL: (foot only, 2WD, large truck, 4WD, road limitations...seasonal..locked gates)
ALL WEATHER ROAD ON SE LEVEE

WATER LOGISTICS:

Access limitations: depth, obstructions: GOOD DEEP WATER PER CHART

Boat Launching, Loading, Docking Courtland Docks and Morgan Landing closest boating facility at northerly mouth. Steamboat and Services Available: Landing, Hog Island or Snug Harbor on Steamboat Slough are closest to southerly mouth.

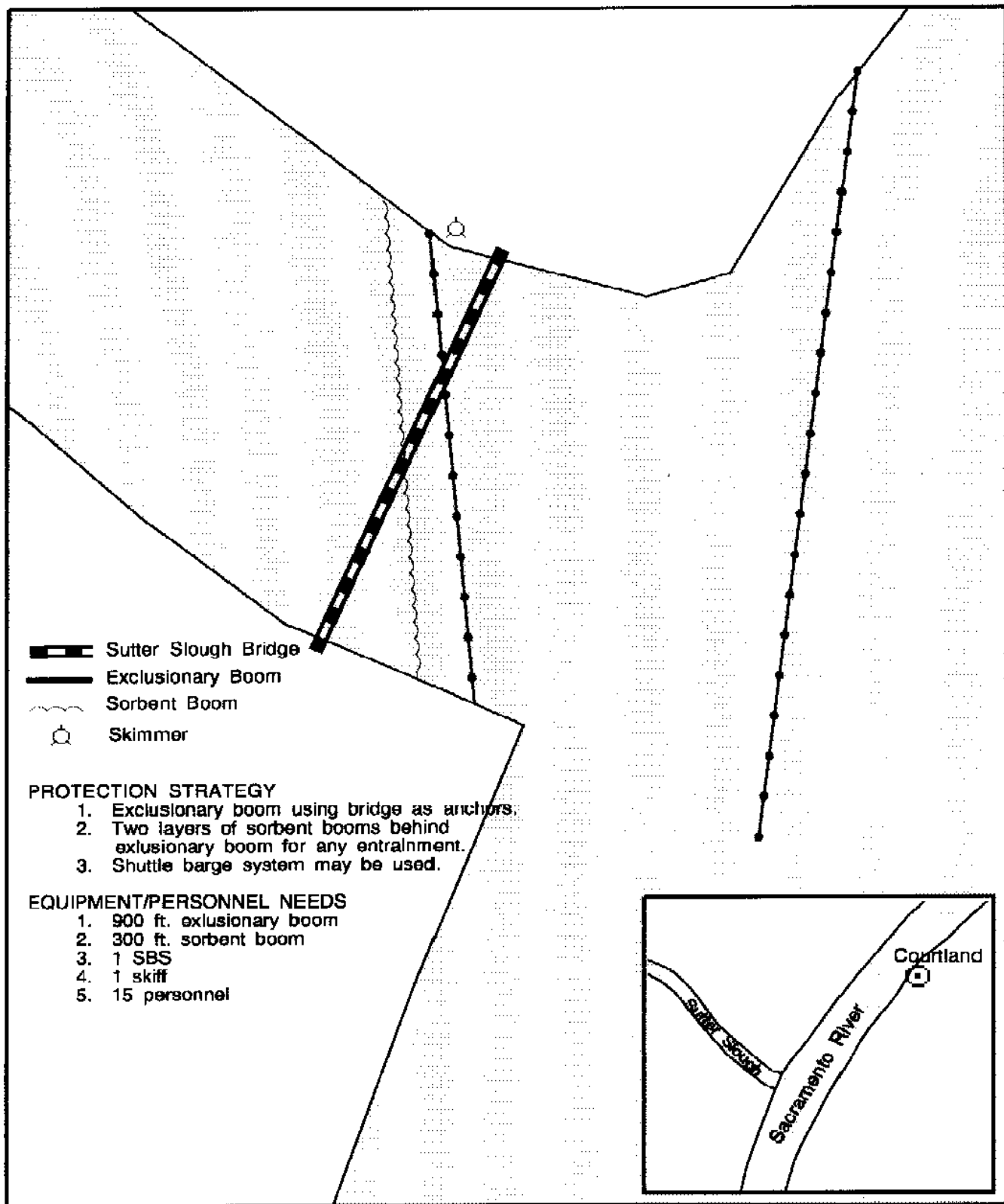
FACILITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Courtland Docks are the nearest facilities. Large front parking lot available but not convenient for large-scale deployment.

COMMUNICATIONS LIMITATIONS / PROBLEMS: No Problems Radio Pager Cell phone

ADDITIONAL COMMENTS

Protective Strategies Sutter Slough North SF-832-AB



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Elk Slough - Site Summary

2-834 -A

County: Yolo
USGS: Courtland, Clarksburg

GRP: **Latitude** 38 20 N **Longitude** 121 35 W
OSPR Map: 164,162 **Last ACP Update** 07/01/1996

SITE DESCRIPTION: (general characterization of site - geomorphology, habitat, exposure, currents)

Site extends from its mouth on Sutter Slough to its terminus 11 miles to the north at the Sacramento River levee road. Though once a throughway it is now a dead-end slough with extensive mature riparian forest and growth along its banks. It is shallow and full of snags. It is premium wildlife and warmwater fish habitat. It provides snags and cavities, a habitat type which has become rare in the Delta. It is used extensively by riparian birds, waterbirds and wildlife.

SEASONAL and SPECIAL RESOURCE CONCERNS (seasonal issues, special status spp present, water intakes)

Marshy/riparian areas such as this have "A" priority year-round.

RESOURCES AT RISK

HABITATS AT RISK:(biological habitats including time of year when most sensitive and vulnerable)

Rich and extensive riparian habitat. Many snags providing suitable habitat for waterbirds and aquatic vertebrates.

SPECIES/COMMUNITIES AT RISK (Brief summaries including time of year when most sensitive/vulnerable)

Very important area for riparian species, waterbirds and other migratory waterfowl.

This site is capable of supporting the full array of riparian wildlife including deer, fox, mustellids, beaver, muskrat, western pond turtle, etc.

Superb area for largemouth bass and panfish. It is also within the zone frequented by relatively high numbers of downstream migrant winter-run chinook.

CULTURAL and ARCHEOLOGICAL SENSITIVITIES

Cultural sites have been identified here.

KEY SITE CONTACTS - type: E-ntry/access; B-iological expertise; L-ogistical; C-ultural; T-rustee; or O-ther assistance

Type	Name	Organization	Phone	FAX
BL	Kent Nelson	Ca Dept of Water Resources	(916) 227-7581	
B	Brenda Grewell	Ca Dept Water Resources	(916) 227-7520	(916) 227-7554
BT	Ed Littrell	Ca Dept. of Fish and Game	(916) 358-2924	(916) 358-2912
TB	Laurie Briden	Dept of Fish and Game Bay/Delta Studies	(209) 944-7800	
O	Robert Clark	North Delta Water Agency	(916) 446-0197	
TB	Bob Pine	USFWS, Endangered Species	(916) 979-2752	

2-834 –A Elk Slough - Site Strategy

County: Yolo CHART: 18662 SACRAMENTO RIVER Latitude 38 20 N Longitude 121 35 W

SITE LOCATION: boundaries, landmarks, area to locate and delimit the site

Site extends from its mouth on Sutter Slough to its terminus 11 miles to the north at the Sacramento River levee road.

HAZARDS and RESTRICTIONS - Air, Water & Ground - things to beware of when approaching or at site

Narrow road, narrow shoulders, thick vegetation, deep water and fast flow at mouth creates a hazardous situation. Traffic control should be implemented at this site. Aerial traffic should be alert to overhead power wires in the area and the TV towers nearby.

POTENTIAL OIL IMPACTS - CONCERNS/ ADVICE to RESPONDERS: (regarding sensitive species present, penetration into marshes

or sediments, burial, organism burrows, tidal channel spreading, watertable limitations, collateral impacts)

The objective is to keep this habitat from becoming contaminated by excluding oil. If oil gets in this slough there are problems of infiltration of oil into thick riparian habitat or into levees via invertebrate, beaver and muskrat burrows.

SITE STRATEGIES

Strategy 2-834.1

(USCG Strategic Objective: 5) Dates: SISRS Approved last tested ACP date
11/06/1996 07/01/1996

Objective or Prevention Condition

Prevent oil from entering Elk Slough

Technique Details

Check here means " No strategy diagram": () Check here means "Contact CCC": ()

Execute Sacramento River Sutter Slough mouth strategy. Then set exclusion boom across the mouth or outside the mouth at an angle to minimize oil movement into the slough. Anchor near shore leaving a trailing length to maintain a seal during tidal fluctuations. Back with sorbent boom.

Table of Response Resources

strategy	hboom	swpbm	xboom	Anchoring	sorb	Bb/skif	skimmers	-No	special equip	deploy personnel	tending personnel	SO
2-834.1	100	200		2/15lb/danforth anchors	70	0/1				2 PERSON FROM	occasional checks	5

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Water access is from the Sacramento River via Sutter Slough a half mile west to the mouth of Elk Slough. Paved vehicle access is Waukeena Rd, the west levee road, intersecting Courtland Road near Jefferson Blvd. East levee roads are private (Merritt Isl.).

LAND ACCESS LEVEL: (foot only, 2WD, large truck, 4WD, road limitations...seasonal..locked gates)
WEST BANK: ALL TRAFFIC/ALL-WEATHER

WATER LOGISTICS:

Access limitations: depth, obstructions: CURRENT AND SNAGS
Boat Launching, Loading, Docking Courtland Docks and Morgan's Landing.
and Services Available:

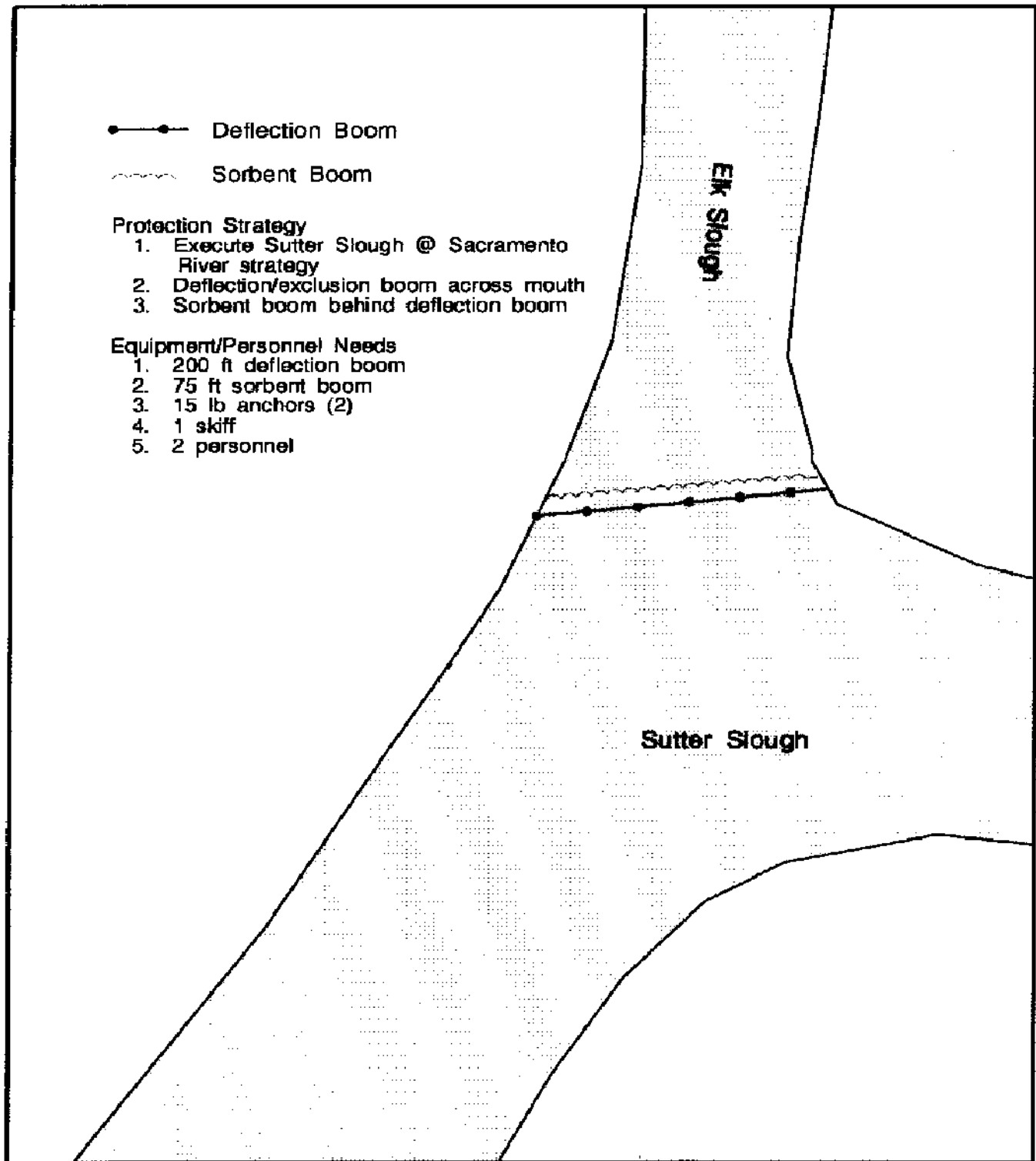
FACILITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Same as Steamboat and Sutter Sloughs.

COMMUNICATIONS LIMITATIONS / PROBLEMS: No Problems Radio Pager Cell phone

ADDITIONAL COMMENTS

Protective Strategies Elk Slough SF-834-A



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Lindsey Slough - Site Summary

2-840 -A

County: Solano
USGS: Liberty Island, Dozier, Rio Vista

GRP: Latitude 38 14.6 N Longitude 121 41.5 W
OSPR Map: Last ACP Update 07/01/1996

SITE DESCRIPTION: (general characterization of site - geomorphology, habitat, exposure, currents)

Site extends from its mouth on Cache Slough (about 1.5 miles west of the Sacramento Deep Water Channel) about 4.5 miles to its terminus plus several miles of three minor sloughs and marshes at its terminal end including Hastings Cut, Calhoun Cut, Wright Cut and Barker Slough. This winding marshy dead-end slough has rich marsh and riparian growth throughout its length including channel islands. Both banks are leveed and ripped. It has many shallows and snags. This habitat is rich in aquatic, marsh and terrestrial life. It is a DMRP designated Natural Resource Area with Significant Habitat Values and a DFG/NHD designated Significant Natural Area.

SEASONAL and SPECIAL RESOURCE CONCERNS (seasonal issues, special status spp present, water intakes)

This marshy area is of "A" priority at all times. This is prime Delta smelt spawning area. Winter-run chinook smolts are of great concern from Sept. through May.

RESOURCES AT RISK

HABITATS AT RISK: (biological habitats including time of year when most sensitive and vulnerable)

Shallow water wetlands are prominent throughout the site. Many of the small levees that surround the wetlands have low spots and perforations which allow considerable water exchange.

SPECIES/COMMUNITIES AT RISK (Brief summaries including time of year when most sensitive/vulnerable)

Area is of major importance to migratory waterfowl and other waterbirds. Raptors and riparian species are abundant.

This is outstanding habitat for semiaquatic animals such as river otters, beavers, mink, muskrat and amphibians.

Lindsey Slough is a major spawning area for Delta smelt (F/CT). It is also in the zone of highest concern for winter-run chinook from mid-September to June.

Emergent growth typifies this area.

CULTURAL and ARCHEOLOGICAL SENSITIVITIES

This is a cultural site.

KEY SITE CONTACTS - type: E-ntry/access; B-iological expertise; L-ogistical; C-ultural; T-rustee; or O-ther assistance

Type	Name	Organization	Phone	FAX
BL	Kent Nelson	Ca Dept of Water Resources	(916) 227-7581	
B	Brenda Grewell	Ca Dept Water Resources	(916) 227-7520	(916) 227-7554
BT	Ed Littrell	Ca Dept. of Fish and Game	(916) 358-2924	(916) 358-2912
TB	Laurie Briden	Dept of Fish and Game Bay/Delta Studies	(209) 944-7800	
OL	Ops Center State Water Project	Dept of Water Resources	(916) 574-2714	
O	Robert Clark	North Delta Water Agency	(916) 446-0197	
TB	Bob Pine	USFWS, Endangered Species	(916) 979-2752	

2-840 –A Lindsey Slough - Site Strategy

County: Solano CHART: 18662 SACRAMENTO RIVER Latitude 38 14.6 N Longitude 121 41.5 W

SITE LOCATION: boundaries, landmarks, area to locate and delimit the site

Site extends from its mouth on Cache Slough (about 1.5 miles west of the Sacramento Deep Water Channel) about 4.5 miles to its terminus plus several miles of three minor sloughs and marshes at its terminal end including Hastings Cut, Calhoun Cut, Wright Cut and Barker

HAZARDS and RESTRICTIONS - Air, Water & Ground - things to beware of when approaching or at site

Aerial traffic beware of overhead power wires. Watercraft beware of snags and shallows. Pedestrian hazards include: Poison Oak, riprap, and thick vegetation.

POTENTIAL OIL IMPACTS - CONCERNS/ ADVICE to RESPONDERS: (regarding sensitive species present, penetration into marshes or sediments, burial, organism burrows, tidal channel spreading, watertable limitations, collateral impacts)

The intention is to protect this extensive marsh -riparian area by excluding oil. Infiltration of oil into wetlands. Penetration of oil into levee, riprap and banks by animal burrows and tree root channels.

SITE STRATEGIES

Strategy 2-840.1

(USCG Strategic Objective: 7) Dates: SISRS Approved last tested ACP date
11/06/1996 07/01/1996

Objective or Prevention Condition

Keep oil in main channel and prevent oil from entering reaches of upper Cache, Miner, Prospect, and Lindsey Sloughs.

Technique Details

Check here means "No strategy diagram": () Check here means "Contact CCC": ()

Execute Cache Slough strategies.

Table of Response Resources

strategy	hboom	swpbm	xboom	Anchoring	sorb	Bb/skif	skimmers	-No	special equip	deploy personnel	tending personnel	SO
2-840.1												7

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Vehicle access is levee road 7 miles north from Rio Vista via Hwy 84. By water from Rio Vista north up the Sacramento River and then 1.5 miles west of the Sacramento Deep Water Channel along the westerly bank.

LAND ACCESS LEVEL: (foot only, 2WD, large truck, 4WD, road limitations...seasonal...locked gates)
LEVEE ROAD GOOD WHEN DRY

WATER LOGISTICS:

Access limitations: depth, obstructions: GOOD EXCEPT SNAGS AND SHALLOWS

Boat Launching, Loading, Docking Private boat launch on east side (near Miner Slough Mouth) but needs to be cleared prior to
and Services Available: use. "Real McCoy Ferry" (Hwy 84) can be used as a launch site. Launch, moorage and fuel
are also available at Steamboat Slough and Rio Vista.

FACILITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Real McCoy Ferry has large deployment site. Another deployment site is past mouth of Prospect Slough but access is limited. Rio Vista has a full range of support facilities.

COMMUNICATIONS LIMITATIONS / PROBLEMS: No Problems Radio Pager Cell phone

ADDITIONAL COMMENTS

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Cache Slough - Site Summary

2-850 -A

County: Solano
USGS: Liberty Island, Dozier, Rio Vista

GRP: **Latitude** 38 14.2 N **Longitude** 121 40.8 W
OSPR Map: **Last ACP Update** 07/01/1996

SITE DESCRIPTION: (general characterization of site - geomorphology, habitat, exposure, currents)

Site extends from the mouth of the Sacramento River Deep Water Channel about 8 miles to its terminus plus several more miles of smaller sloughs (Haas Slough and Shag Slough) and many minor sloughs and marshes (20+ miles total). This winding, marshy, dead-end slough has rich marsh and riparian growth throughout its length including channel islands. Both banks are leveed and ripped in places. It has many shallows and snags. This habitat is rich in aquatic, marsh and terrestrial life. It is a Delta Master Recreational Plan designated Natural Resource Area with Significant Habitat Values and a DFG/NHD designated Significant Natural Area.

SEASONAL and SPECIAL RESOURCE CONCERNS (seasonal issues, special status spp present, water intakes)

This marshy area is of "A" priority at all times. This is prime Delta smelt spawning area. Winter-run chinook smolts are of great concern from Sept through May.

RESOURCES AT RISK

HABITATS AT RISK: (biological habitats including time of year when most sensitive and vulnerable)

Shallow water wetlands are prominent throughout the site. Many of the small levees that surround the wetlands have low spots and perforations which allow considerable water exchange. This important habitat for Delta smelt spawning.

SPECIES/COMMUNITIES AT RISK (Brief summaries including time of year when most sensitive/vulnerable)

Area is of major importance to migratory waterfowl and other waterbirds. Raptors and riparian species are abundant.

This is outstanding habitat for semiaquatic mammals such as river otters, beavers, mink, muskrat and amphibians.

Cache Slough is a major spawning area for delta smelt (F/CT).

It is also in the zone of highest concern for winter run chinook from mid September to June.

Emergent growth typifies this area.

CULTURAL and ARCHEOLOGICAL SENSITIVITIES

This is a cultural site.

KEY SITE CONTACTS - type: E-ntry/access; B-iological expertise; L-ogistical; C-ultural; T-rustee; or O-ther assistance

Type	Name	Organization	Phone	FAX
BL	Kent Nelson	Ca Dept of Water Resources	(916) 227-7581	
B	Brenda Grewell	Ca Dept Water Resources	(916) 227-7520	(916) 227-7554
BT	Ed Littrell	Ca Dept. of Fish and Game	(916) 358-2924	(916) 358-2912
TB	Laurie Briden	Dept of Fish and Game Bay/Delta Studies	(209) 944-7800	
OL	Ops Center State Water Project	Dept of Water Resources	(916) 574-2714	
O	Robert Clark	North Delta Water Agency	(916) 446-0197	
TB	Bob Pine	USFWS, Endangered Species	(916) 979-2752	

2-850 -A Cache Slough - Site Strategy

County: Solano

CHART: 18662 SACRAMENTO RIVER

Latitude
38 14.2 N

Longitude
121 40.8 W

SITE LOCATION: boundaries, landmarks, area to locate and delimit the site

Site extends from the mouth of the Sacramento River Deep Water Channel about 8 miles to its terminus plus several more miles of smaller sloughs (Haas Slough and Shag Slough) and many minor sloughs and marshes (20+ miles total).

HAZARDS and RESTRICTIONS - Air, Water & Ground - things to beware of when approaching or at site

Aerial traffic beware of overhead power wires. Watercraft beware of snags and shallows. Pedestrian hazards include: Poison Oak, riprap, and thick vegetation.

POTENTIAL OIL IMPACTS - CONCERNS/ ADVICE to RESPONDERS: (regarding sensitive species present, penetration into marshes

or sediments, burial, organism burrows, tidal channel spreading, watertable limitations, collateral impacts)

This sensitive site is best protected by excluding oil from entering by exclusion booming and deflection to collection near mouth. Infiltration of oil into wetlands and penetration into levees, riprap, and banks.

SITE STRATEGIES

Strategy 2-850.1

(USCG Strategic Objective: 7)

Dates: SISRS Approved last tested ACP date
11/06/1996 07/01/1996

Objective or Prevention Condition

Keep oil in main ship channel and prevent oil from entering reaches of upper Cache, Miner, Prospect, and Lindsey Sloughs.

Technique Details

Check here means "No strategy diagram": () Check here means "Contact CCC": ()

1. Power down water transfer pumps u/s Lindsey Slough (at Barker Slough).
2. Deploy deflection boom keep oil in Ship Channel. From inside the Deep Water Channel mouth, lay 12X12+ curtain boom in a shallow chevron parallel to the Ship Channel and across upper Cache on the west and Miner Slough on the east.

Strategy 2-850.2

(USCG Strategic Objective: 5)

Dates: SISRS Approved last tested ACP date
11/06/1996 07/01/1996

Objective or Prevention Condition

Stop oil movement into Lindsey, Prospect and Upper Cache Sloughs by exclusion booming across Cache Slough at Prospect Slough

Technique Details

Check here means "No strategy diagram": () Check here means "Contact CCC": ()

Deploy 1200' 10x10+ curtain boom across Cache Slough to exclude oil from entering upper sloughs and direct it to shore for collection. Lay boom from south cable-ferry landing opposite Prospect Slough mouth diagonally east across Cache Slough to north bank near Ship Channel Mouth. Anchor near shore with overlap of north bank and trailing boom ends to maintain tidal seal. If conditions permit, collect/skim oil with land-based skimmer on the south levee. Back with sorbent if oil presence is great.

Strategy 2-850.3

(USCG Strategic Objective: 5,6)

Dates: SISRS Approved last tested ACP date
11/06/1996 07/01/1996

Objective or Prevention Condition

Backup strategy: if oil is likely to overwhelm previous strategy, deploy a secondary exclusion boom at Lindsey Slough mouth

Technique Details

Check here means "No strategy diagram": () Check here means "Contact CCC": ()

Deploy 1000' 10x10+ curtain boom from north ferry cable-ferry landing at mouth of Prospect Slough diagonally west across Cache Slough to the levee near the mouth of Lindsey Slough. Anchor near shore leaving, trailing boom ends to maintain tidal seal. If conditions permit, collect/skim oil with land-based skimmer on the south levee. Back with sorbent. Execute Prospect Slough strategy.

Table of Response Resources

strategy	hboom	swpbm	xboom	Anchoring	sorb	Bb/skif	skimmers -No	special equip	deploy personnel	tending personnel	SO
2-850.1	4800			24/50lb/danforth anchors		7/3			39	6 people/full tending	7
2-850.2	1200			6/35lb/danforths		2/2	portable & VT		SAME AS ABOVE	skimming and watch	5
2-850.3	1000			4/25lb/danforths	1000	2.1	portable & VT		SAME	watch/possible skim	5,6

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Vehicle access to the mouth is levee road 6 miles north from Rio Vista via Hwy 84. Other levee roads are less accessible. By water from Rio Vista north up the Sacramento River and lower Cache Slough to the mouth of the Sacramento Deep Water Ship Channel.

LAND ACCESS LEVEL: (foot only, 2WD, large truck, 4WD, road limitations...seasonal..locked gates)
PAVED AT MOUTH ELSE DRY WEATHER

WATER LOGISTICS:

Access limitations: depth, obstructions: GOOD EXCEPT SNAGS AND SHALLOWS

Boat Launching, Loading, Docking Private boat launch on east side (near Miner Slough Mouth) but needs to be cleared prior to use. Real McCoy Ferry (Hwy 84) can be used as a launch site. Launch, moorage and fuel are also available at Steamboat Slough and Rio Vista.

FACILITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Real McCoy Ferry has large deployment site. Another deployment site is past mouth of Prospect Slough but access is limited. Rio Vista has a full range of support facilities.

COMMUNICATIONS LIMITATIONS / PROBLEMS:

No Problems Radio Pager Cell phone

ADDITIONAL COMMENTS

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Miner Slough - Site Summary

2-855 -A

County: Solano
USGS: Courtland, Isleton, Rio Vista

GRP: **Latitude** 38 14 N **Longitude** 121 40 W
OSPR Map: 164,166,165 **Last ACP Update** 07/01/1996

SITE DESCRIPTION: (general characterization of site - geomorphology, habitat, exposure, currents)

Site extends from its mouth on the Sutter Slough southwest of Courtland to its mouth on Cache Slough near the mouth of the Sacramento Deep Water Ship Channel. This Slough is another side channel of the Sacramento River. It has abrupt steep levees with occasional water side benches and beaches. Much of its length is ripped but it has mature and shrub-scrub riparian growth at points throughout and particularly at southerly reaches where there are channel islands and extensive open marshes. The southerly portion has been designated (DMRP and DFG/NHD) as having outstanding habitat values. The site is a DMRP designated scenic area. There are breaks in the levee which allow flow to the interior of Prospect Island.

SEASONAL and SPECIAL RESOURCE CONCERNS (seasonal issues, special status spp present, water intakes)

Marsh and riparian growths here have "A" priority year around. Significant and Special Status Species occur here, including important fish stocks, an endangered fish and three rare plants.

RESOURCES AT RISK

HABITATS AT RISK: (biological habitats including time of year when most sensitive and vulnerable)

There are very significant and sensitive dense riparian and emergent growths in the south reaches and in spots in the north portion. Riprap and grassy, steep levees typify the mid and northerly portion. The aquatic habitat is CRITICAL to many migratory species of fish including a high proportion of the salmonid stocks for the Sacramento Valley, striped bass, American shad, and Sacramento splittail. Extensive riparian habitat.

SPECIES/COMMUNITIES AT RISK (Brief summaries including time of year when most sensitive/vulnerable)

Swainson's hawk (FSC/CT) frequent this site. This channel is of moderate importance to many other bird species particularly marsh and waterbirds. Portions of the marshy margin are very valuable habitat for marsh animals. In addition to resident warmwater species, this is CRITICAL habitat to migratory species of fish. A high proportion of the migratory fish of the Sacramento Valley use this corridor or reside here for some portion of their life-cycle. These include: all the steelhead and salmon stocks (including winter-run chinook (F/CE)), American shad, striped bass, white and green sturgeon, and Sacramento splittail (F/CSC). There is very great concern for winter-run chinook smolts from mid-September through May.

This channel is commercially fished for crayfish.

Riparian growth is of key importance here. Sensitive plant species present include: Mason's lilaeopsis (FSC/CR).

CULTURAL and ARCHEOLOGICAL SENSITIVITIES

KEY SITE CONTACTS - type: E-ntry/access; B-iological expertise; L-ogistical; C-ultural; T-rustee; or O-ther assistance

Type	Name	Organization	Phone	FAX
BL	Kent Nelson	Ca Dept of Water Resources	(916) 227-7581	
B	Brenda Grewell	Ca Dept Water Resources	(916) 227-7520	(916) 227-7554
BT	Ed Littrell	Ca Dept. of Fish and Game	(916) 358-2924	(916) 358-2912
TB	Laurie Briden	Dept of Fish and Game Bay/Delta Studies	(209) 944-7800	
O	Robert Clark	North Delta Water Agency	(916) 446-0197	
TB	Bob Pine	USFWS, Endangered Species	(916) 979-2752	

2-855 -A Miner Slough - Site Strategy

County: Solano

CHART: 18662 SACRAMENTO RIVER

Latitude
38 14 N

Longitude
121 40 W

SITE LOCATION: boundaries, landmarks, area to locate and delimit the site

Site extends from its mouth on the Sutter Slough southwest of Courtland to its mouth on Cache Slough near the mouth of the Sacramento Deep Water Ship Channel.

HAZARDS and RESTRICTIONS - Air, Water & Ground - things to beware of when approaching or at site

Aerial traffic beware of overhead power wires and TV towers in Walnut Grove vicinity. Narrow road, narrow bridges, and narrow shoulders with riparian vegetation makes create hazards. Traffic control should be implemented at this site. Narrow road, narrow shoulders, thick vegetation, and deep water creates a hazardous situation. Traffic control should be implemented at this site.

POTENTIAL OIL IMPACTS - CONCERNS/ ADVICE to RESPONDERS: (regarding sensitive species present, penetration into marshes

or sediments, burial, organism burrows, tidal channel spreading, watertable limitations, collateral impacts)

Infiltration of oil into riprap and into levees via invertebrate, muskrat and beaver burrows. Infiltration of oil into thick riparian habitat. Beaver burrows may be present.

SITE STRATEGIES

Strategy 2-855.1

(USCG Strategic Objective: 5,7)

Dates: SISRS Approved last tested ACP date
11/06/1996 07/01/1996

Objective or Prevention Condition

Prevent oil from entering north mouth at Sutter Slough by deploying diversion/exclusion oil to shunt oil past mouth.

Technique Details

Check here means "No strategy diagram": () Check here means "Contact CCC": ()

1. Deploy strategy for Sutter Slough (2-832) path of oil slick and Steamboat Slough path, ie. stop it from getting near mouth.
2. Deploy additional exclusion-diversion boom across narrow entrance of Miner Slough: 200' 6X6+ curtain boom from well upstream of mouth on Sutter Slough to well downstream. Anchor with trailing boom length to maintain tidal seal. Back with sorbent boom. Good site for land-based deployment.

Strategy 2-855.2

(USCG Strategic Objective: 5,7)

Dates: SISRS Approved last tested ACP date
11/06/1996 07/01/1996

Objective or Prevention Condition

Deter oil entry into south mouth at Cache Slough using deflection/exclusion booming at mouth. See Cache Slough primary strategy.

Technique Details

Check here means "No strategy diagram": () Check here means "Contact CCC": ()

See Cache Slough strategy. Additional strategy may be needed.

Table of Response Resources

strategy	hboom	swpbm	xboom	Anchoring	sorb	Bb/skif	skimmers	-No	special equip	deploy personnel	tending personnel	SO
2-855.1	200			anchors	150					2 PERSON	performance checks	5,7
2-855.2												5,7

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

By water, site is accessible via its northerly mouth on Sutter Slough (Courtland) or via its southerly mouth just east of the Ryer Island Ferry (Hwy 84) on Cache Slough. Best vehicle access is Hwy 84 which is the Ryer Island levee road 7 miles north of Rio Vista.

LAND ACCESS LEVEL: (foot only, 2WD, large truck, 4WD, road limitations...seasonal..locked gates)
ALL WEATHER/ALL TRAFFIC ROADS

WATER LOGISTICS:

Access limitations: depth, obstructions: DEEP BUT RIPARIAN GROWTH THICK
Boat Launching, Loading, Docking Arrowhead Marina at NW corner of Ryer Island.
and Services Available:

FACILITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

At upper mouth, deploy from levee: nearest facility is Arrowhead Marina. Lower mouth, deploy from ferry or from deployment sites on south bank or Cache Slough or ferry landing. Use Rio Vista facilities.

COMMUNICATIONS LIMITATIONS / PROBLEMS: No Problems Radio Pager Cell phone

ADDITIONAL COMMENTS

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Sacramento River Deep Water Ship Channel - Site Summary

2-859 -B

County: Sacramento
USGS: West Sacramento, Liberty Island

GRP: **Latitude** 38 14.3 N **Longitude** 121 40.3 W
OSPR Map: 164,162 **Last ACP Update** 07/01/1996

SITE DESCRIPTION: (general characterization of site - geomorphology, habitat, exposure, currents)

Site extends from the Port of Sacramento to its mouth on Cache slough. This is an artificially constructed deep channel for ships to access the Port. Although relatively narrow and artificial, the margin is emergent marsh along its entire length with occasional shrub-scrub.

SEASONAL and SPECIAL RESOURCE CONCERNS (seasonal issues, special status spp present, water intakes)

Marshy areas are high priority at all times.

RESOURCES AT RISK

HABITATS AT RISK:(biological habitats including time of year when most sensitive and vulnerable)

The site has marshy margins with occasional shrub-scrub throughout its length. Anadromous fish use this slough for upstream migration.

SPECIES/COMMUNITIES AT RISK (Brief summaries including time of year when most sensitive/vulnerable)

A large variety of waterbirds use this area.

The habitat is suitable for semiaquatic species including beavers, muskrat, amphibians, etc. Salmon and other migratory species concentrate in this channel during migratory periods.

CULTURAL and ARCHEOLOGICAL SENSITIVITIES

KEY SITE CONTACTS - type: E-ntry/access; B-iological expertise; L-ogistical; C-ultural; T-rustee; or O-ther assistance

Type	Name	Organization	Phone	FAX
BL	Kent Nelson	Ca Dept of Water Resources	(916) 227-7581	
B	Brenda Grewell	Ca Dept Water Resources	(916) 227-7520	(916) 227-7554
BT	Ed Littrell	Ca Dept. of Fish and Game	(916) 358-2924	(916) 358-2912
TB	Laurie Briden	Dept of Fish and Game Bay/Delta Studies	(209) 944-7800	
O	Robert Clark	North Delta Water Agency	(916) 446-0197	
TB	Bob Pine	USFWS, Endangered Species	(916) 979-2752	

2-859 -B

Sacramento River Deep Water Ship Channel - Site Strategy

County: Sacramento

CHART: 18662 SACRAMENTO RIVER

Latitude
38 14.3 N

Longitude
121 40.3 W

SITE LOCATION: boundaries, landmarks, area to locate and delimit the site

Site extends from the Port of Sacramento to its mouth on Cache slough.

HAZARDS and RESTRICTIONS - Air, Water & Ground - things to beware of when approaching or at site

Slips, trips and falls. Aerial traffic be aware there are overhead wires in this area.

POTENTIAL OIL IMPACTS - CONCERNS/ ADVICE to RESPONDERS: regarding sensitive species present, penetration into marshes

or sediments, burial, organism burrows, tidal channel spreading, watertable limitations, collateral impacts)

Concern here is that should an oil spill occur in the ship channel, the oil should remain contained in the channel. The channel itself is also lined with marshes which are vulnerable to oiling: penetration of oil into marshy margins and into the levee via beaver, muskrat and invertebrate burrows.

SITE STRATEGIES

Strategy 2-859.1

(USCG Strategic Objective: 6)

Dates: SISRS Approved last tested ACP date
11/06/1996 07/01/1996

Objective or Prevention Condition

If oil is approaching from south, divert oil to a sacrificial beach inside and near the mouth of the channel using prevailing wind

Technique Details

Check here means "No strategy diagram": () Check here means "Contact CCC": ()

Set diversion/exclusion boom across the mouth of the ship channel at a diagonal from its windward tip to a leeward shore in the vicinity of R52 or G51. Strand oil on bank and set up collection and skimming. If oil is escaping past this collection point, back with sorbent and set up a second diversion/collection boom.

Strategy 2-859.2

(USCG Strategic Objective: 5,6)

Dates: SISRS Approved last tested ACP date
11/06/1996 07/01/1996

Objective or Prevention Condition

If oil is originating at Port, minimize oil spread from Channel to other sites and minimize oiling within channel.

Technique Details

Check here means "No strategy diagram": () Check here means "Contact CCC": ()

1. Contact lock control to keep locks shut.
2. To minimize escapement of oil from channel to neighboring sites and minimize extent of oiling of channel margins, establish collection/diversion booming at several points south of Port using three booms diagonally across channel to collection/skim sites. Back last boom with sorbent.
3. Prepare to execute Lindsey, Prospect and Miner Sloughs Strategies.

Table of Response Resources

strategy	hboom	swpbm	xboom	Anchoring	sorb	Bb/skif	skimmers	-No	special equip	deploy personnel	tending personnel	SO
2-859.1	1300			5/25lb/danforhts	1300	2/1	portable & VT		1	8 PERSON	skimming/ occ check	6
2-859.2	3000			9/22+/danforhts	1000	2/1	portable & VT		3	8 WATER, 2 LAND	skim/ occ checks.	5,6

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

By water the Ship Channel may be reached from Cache Slough 7 miles north of Rio Vista or from the Port of Sacramento. Land access is possible on seasonal levee roads on each side of the Channel: access is restricted and may be reached from various routes on Prospect

LAND ACCESS LEVEL: (foot only, 2WD, large truck, 4WD, road limitations...seasonal..locked gates)
ALL VEHICLES IN DRY CONDITIONS

WATER LOGISTICS:

Access limitations: depth, obstructions: ANY VESSEL.

Boat Launching, Loading, Docking Boat launch and marine support are available at Snug Harbor (Steamboat Slough mouth) or Rio Vista.
and Services Available:

FACILITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

The Ryer Island Ferry landing or the Port would be good deployment sites. Considerable facilities are available at either Rio Vista or the

COMMUNICATIONS LIMITATIONS / PROBLEMS: No Problems Radio Pager Cell phone

ADDITIONAL COMMENTS

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Prospect Slough - Site Summary

2-860 -A

County: Solano
USGS: Liberty Island, Dozier, Rio Vista

GRP: **Latitude** 38 14.5 N **Longitude** 121 40.9 W
OSPR Map: **Last ACP Update** 07/01/1996

SITE DESCRIPTION: (general characterization of site - geomorphology, habitat, exposure, currents)

Site extends from its mouth on Cache Slough (about 0.5 miles west of the Sacramento Deep Water Channel) about 4 miles and then extends into Liberty Cut (5 miles) and an unnamed drainage canal paralleling the Ship Channel. The site includes the many adjacent marshes. This winding, marshy, dead-end slough has extremely rich marsh and riparian growth throughout its length including channel islands. Portions are leveed but much is not. It has many shallows and snags. This habitat is rich in aquatic, marsh and terrestrial life. It is a DMRP designated Natural Resource Area with Significant Habitat Values and a DFG/NHD designated Significant Natural Area. It is very scenic.

SEASONAL and SPECIAL RESOURCE CONCERNS (seasonal issues, special status spp present, water intakes)

This marshy area is of "A" priority at all times. This is prime Delta smelt spawning area. Winter-run chinook smolts are of great concern from Sept through May.

RESOURCES AT RISK

HABITATS AT RISK: (biological habitats including time of year when most sensitive and vulnerable)

Shallow water wetlands are prominent throughout the site. Many emergent and woody marshes and wetlands. Mature riparian stands. Important spawning habitat for Delta smelt.

SPECIES/COMMUNITIES AT RISK (Brief summaries including time of year when most sensitive/vulnerable)

Area is of major importance to migratory waterfowl and other waterbirds. Raptors and riparian species are abundant.

This is outstanding habitat for semiaquatic mammals such as river otters, beavers, mink and muskrat. Prospect Slough is a major spawning area for Delta smelt (F/CT). It is also in the zone of highest concern for winter-run chinook from mid-September to June. Emergent growth typifies this area.

CULTURAL and ARCHEOLOGICAL SENSITIVITIES

This is a cultural site.

KEY SITE CONTACTS - type: E-ntry/access; B-iological expertise; L-ogistical; C-ultural; T-rustee; or O-ther assistance

Type	Name	Organization	Phone	FAX
BL	Kent Nelson	Ca Dept of Water Resources	(916) 227-7581	
B	Brenda Grewell	Ca Dept Water Resources	(916) 227-7520	(916) 227-7554
BT	Ed Littrell	Ca Dept. of Fish and Game	(916) 358-2924	(916) 358-2912
TB	Laurie Briden	Dept of Fish and Game Bay/Delta Studies	(209) 944-7800	
OL	Ops Center State Water Project	Dept of Water Resources	(916) 574-2714	
O	Robert Clark	North Delta Water Agency	(916) 446-0197	
TB	Bob Pine	USFWS, Endangered Species	(916) 979-2752	

2-860 -A Prospect Slough - Site Strategy

County: Solano

CHART: 18662 SACRAMENTO RIVER

Latitude
38 14.5 N

Longitude
121 40.9 W

SITE LOCATION: boundaries, landmarks, area to locate and delimit the site

Site extends from its mouth on Cache Slough (about 0.5 miles west of the Sacramento Deep Water Channel) about 4 miles and then extends into Liberty Cut (5 miles) and an unnamed drainage canal paralleling the Ship Channel. The site includes the many adjacent

HAZARDS and RESTRICTIONS - Air, Water & Ground - things to beware of when approaching or at site

Aerial traffic beware of overhead power wires. Watercraft beware of snags and shallows. Pedestrian hazards include: Poison Oak, riprap, and thick vegetation.

POTENTIAL OIL IMPACTS - CONCERNS/ ADVICE to RESPONDERS: (regarding sensitive species present, penetration into marshes
or sediments, burial, organism burrows, tidal channel spreading, watertable limitations, collateral impacts)

This is an extensive marsh / riparian area which can be best protected by excluding or deflecting oil to collection at the mouth to avoid penetration of oil into wetlands. Penetration of oil into banks through invertebrate and mammal burrows and tree root channels.

SITE STRATEGIES

Strategy 2-860.1

(USCG Strategic Objective: 5)

Dates: SISRS Approved last tested ACP date
11/06/1996 07/01/1996

Objective or Prevention Condition

Backup strategy: if oil may escape the exclusion boom strategy above, exclusion boom Prospect Slough mouth and marsh.

Technique Details

Check here means "No strategy diagram": () Check here means "Contact CCC": ()

Lay a barrier of boom and sorbents across marsh and open water at mouth of Prospect Slough as follows: across marshy area, lay 2200' of 4X4+ boom backed with sorbent and angle the west end out into the center channel to divert oil away from the mouth; across open water of the mouth itself, lay 1300' of 8X8+ curtain boom backed with sorbent. Anchor near shore at ferry landing and leave trailing boom lengths to promote sealing during tidal flux.

Table of Response Resources

strategy	hboom	swpbm	xboom	Anchoring	sorb	Bb/skif	skimmers	-No	special equip	deploy personnel	tending personnel	SO
2-860.1	1200	2200		6/25lb/danforths	2400	2/2				8	occasional checks.	5

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Vehicle access here is seasonal and via private levee roads. All year access to road across Cache Slough from mouth: levee road 7 miles north from Rio Vista via Hwy 84. By water from Rio Vista north up the Sacramento River and then half mile west of the Sacramento Deep Water Channel along the northerly bank.

LAND ACCESS LEVEL: (foot only, 2WD, large truck, 4WD, road limitations...seasonal..locked gates)
LEVEE MAY BE GOOD WHEN DRY

WATER LOGISTICS:

Access limitations: depth, obstructions: GOOD AT MOUTH EXCEPT IN SHALLOW

Boat Launching, Loading, Docking Private boat launch on east side (near Miner Slough Mouth) but needs to be cleared prior to
and Services Available: use. Real McCoy Ferry (Hwy 84) can be used as a launch site. Launch, moorage and fuel are
also available at Steamboat Slough and Rio Vista.

FACILITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Real McCoy Ferry has large deployment site. Another deployment site is past mouth of Prospect Slough but access is limited. Rio Vista has a full range of support facilities.

COMMUNICATIONS LIMITATIONS / PROBLEMS: No Problems Radio Pager Cell phone

ADDITIONAL COMMENTS

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Mokelumne River Mouth - Site Summary

2-870 -A

County: Sacramento
USGS: Bouldin Island

GRP: **Latitude** 38 05.7 N **Longitude** 121 34.7 W
OSPR Map: **Last ACP Update** 07/01/1996

SITE DESCRIPTION: (general characterization of site - geomorphology, habitat, exposure, currents)

Site extend from the mouth on the San Joaquin six miles upstream to the split into the two forks. This large river mouth has a marshy channel island in the middle of its mouth and marshy pockets to each side of the mouth. The marsh island has a shallow shoal to the south. Upstream, there are numerous berm and channel islands and marshy margins along the ripped shore. The ebb flow out is strong. Oil threats are from within or on a flood tide from the San Joaquin.

SEASONAL and SPECIAL RESOURCE CONCERNS (seasonal issues, special status spp present, water intakes)

RESOURCES AT RISK

HABITATS AT RISK:(biological habitats including time of year when most sensitive and vulnerable)

This is important fish migration and propagation habitat. Marshy margins provide habitat for aquatic and riverine species.

SPECIES/COMMUNITIES AT RISK (Brief summaries including time of year when most sensitive/vulnerable)

CULTURAL and ARCHEOLOGICAL SENSITIVITIES

KEY SITE CONTACTS - type: E-ntry/access; B-iological expertise; L-ogistical; C-ultural; T-rustee; or O-ther assistance

Type	Name	Organization	Phone	FAX
E	Gilbert Labrie	Brannan-Andrus Reclamation District	(707) 374-6111	
BL	Kent Nelson	Ca Dept of Water Resources	(916) 227-7581	
B	Brenda Grewell	Ca Dept Water Resources	(916) 227-7520	(916) 227-7554
TB	Ed Littrell	Ca Dept. of Fish and Game	(916) 358-2924	(916) 358-2912
OEL	Dan Nomellini	Central Delta Water Agency	(209) 465-5883	
TB	Laurie Briden	Dept of Fish and Game Bay/Delta Studies	(209) 944-7800	
TB	Bob Pine	USFWS, Endangered Species	(916) 979-2752	
E	Gilbert Cosio	Webb Tract & Bacon Isl Reclamation	(916) 456-0253	

2-870 -A Mokelumne River Mouth - Site Strategy

County: Sacramento

CHART: 18661 Sacramento & San Joaquin River

Latitude
38 05.7 N

Longitude
121 34.7 W

SITE LOCATION: boundaries, landmarks, area to locate and delimit the site

Site extend from the mouth on the San Joaquin six miles upstream to the split into the two forks.

HAZARDS and RESTRICTIONS - Air, Water & Ground - things to beware of when approaching or at site

Boat traffic beware of shallows, many snags and mud bars. Poison Oak.

POTENTIAL OIL IMPACTS - CONCERNS/ ADVICE to RESPONDERS: (regarding sensitive species present, penetration into marshes
or sediments, burial, organism burrows, tidal channel spreading, watertable limitations, collateral impacts)

Major concern is oiling of emergent marshes at margins and on berm islands. To do this, the strategy is to exclude oil from entering this reach of the river.

SITE STRATEGIES

Strategy 2-870.1

(USCG Strategic Objective: 567)

Dates: SISRS Approved last tested ACP date
11/06/1996 07/01/1996

Objective or Prevention Condition

Prevent oil from entering Mokelumne mouth on the flood tide by exclusion-collection booming toward eddy to west of mouth.

Technique Details

Check here means "No strategy diagram": () Check here means "Contact CCC": ()

From the breakwater of Korth's Marina at the west side of the Mokelumne mouth, deploy 1500' 8X8+ Curtain boom wSW to the shoal in mid-channel. This will tend to convey oil to the Andrus Island shore. Line the shore and/or preclean the shoreline and commence collection and skimming using a land-base skimmer on the Andrus Island levee.

Strategy 2-870.2

(USCG Strategic Objective: 5,6)

Dates: SISRS Approved last tested ACP date
11/06/1996 07/01/1996

Objective or Prevention Condition

If oil escapes the above strategy, set up diagonal collection boom to most favorable collection shore and boom marina entries.

Technique Details

Check here means "No strategy diagram": () Check here means "Contact CCC": ()

Deploy 2000'6x6+ collection boom at a long diagonal to a favorable collection point along the the Bouldin Island shore to encourage stranding of oil and skimming at the shore. Mid-boom anchoring will be necessary to minimize catenary entrainment.

Table of Response Resources

strategy	hboom	swpbm	xboom	Anchoring	sorb	Bb/skif	skimmers	-No	special equip	deploy personnel	tending personnel	SO
2-870.1	1500	1000		5/25lbs/danforth, chain and line		2/2	portable & VT		1	10 WATER/4	skimmer + checks	567
2-870.2		2000		5/25lb/danforth anchors & stakes		1/1	portable & VT		1	7 BOAT/ 2 LAND	skimming personnel	5,6

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Levee roads provide vehicle access from Hwy 12. Andrus Island road is paved to the mouth of the Mokelumne River. Water access is from a variety of marinas at or near the mouth of the Mokelumne. Channel marker at mouth is G47.

LAND ACCESS LEVEL: (foot only, 2WD, large truck, 4WD, road limitations...seasonal..locked gates)
ALL WEATHER/ ALL TRAFFIC LEVEE ROAD

WATER LOGISTICS:

Access limitations: depth, obstructions: GOOD WATER EXCEPT SHALLOW TO WEST

Boat Launching, Loading, Docking Launching facilities available at mouth of Mokelumne River. Boat launch and marine support are and Services Available: available at Antioch, Bethel Island and mouth of Mokelumne. Launch is also at Brannon Island State Park.

FACILITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Complete support facilities at Rio Vista and Antioch. Lesser degree at Bethel Island and Mokelumne River. Staging is possible at Rio Vista, Brannon Island, Mokelumne, Bethel Island, and Antioch.

COMMUNICATIONS LIMITATIONS / PROBLEMS: No Problems Radio Pager Cell phone

ADDITIONAL COMMENTS

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North Mokelumne River - Site Summary

2-873 -A

County: Sacramento
USGS: Rio Vista, Bouldin Isl., Isleton

GRP: **Latitude** 38 08 N **Longitude** 121 33.5 W
OSPR Map: 168,14 **Last ACP Update** 07/01/1996

SITE DESCRIPTION: (general characterization of site - geomorphology, habitat, exposure, currents)

This site extends from New Hope Landing (upper Mokelumne fork at north end of Staten Island) to the reunion with South Mokelumne River at southwest tip of Staten Island. It is bordered by Tyler Island on west bank and Staten Island on the east bank. This winding section of river is bordered by ripped levees throughout. Emergent patches and riparian growths are scattered throughout the site. It has connects with the Delta Cross Channel via lower Snodgrass Slough and a cut between Dead Horse Island and McCormack Island. The channel is relatively deep and swift with only occasional channel islands, but there is one sizable channel island which has high ecological value because it supports several rare plant species. It is an important waterway for migrant fish, water supply conveyance, flood control and boat traffic: the waters of the Sacramento flow to the central Delta.

SEASONAL and SPECIAL RESOURCE CONCERNS (seasonal issues, special status spp present, water intakes)

Marshy sites are "A" priority at all times. Special Status Species of fish, plants and birds occur here. This site is within the zone of highest concern for winter-run chinook from mid-September through May.

RESOURCES AT RISK

HABITATS AT RISK:(biological habitats including time of year when most sensitive and vulnerable)

This is very important aquatic habitat for upstream and downstream migrant fish including the salmon and steelhead stocks of the Sacramento Valley, striped bass, Sacramento splittail, and Delta smelt. The margins are either marshy or upland: both are important habitat for birdlife and small animals. Four species of rare plant occur here; all may be found on one sizable channel island about 3 miles upstream from the southern confluence.

SPECIES/COMMUNITIES AT RISK (Brief summaries including time of year when most sensitive/vulnerable)

Special Status Species of birds found here include Swainson's hawk (FSC/CT) and greater sandhill crane (CT).

This is one of several migratory corridors for migratory fish. A portion of all the salmonid stocks, including winter-run chinook (F/CE), move through this site. Striped bass, sturgeon species, Sacramento splittail, and Delta smelt also used this area for migration or temporary habitat.

Four species of rare plants have been found in this site, including: Sanford's arrowhead, Delta tule pea, Delta mudwort, and Mason's lilaeopsis. Elderberry bush, the habitat for the Valley elderberry longhorn beetle (FT), is found several places in the northern section of the site.

CULTURAL and ARCHEOLOGICAL SENSITIVITIES

KEY SITE CONTACTS - type: E-ntry/access; B-iological expertise; L-ogistical; C-ultural; T-rustee; or O-ther assistance

Type	Name	Organization	Phone	FAX
BL	Kent Nelson	Ca Dept of Water Resources	(916) 227-7581	
B	Brenda Grewell	Ca Dept Water Resources	(916) 227-7520	(916) 227-7554
BT	Ed Littrell	Ca Dept. of Fish and Game	(916) 358-2924	(916) 358-2912
TB	Laurie Briden	Dept of Fish and Game Bay/Delta Studies	(209) 944-7800	
OL	Ops Center State Water Project	Dept of Water Resources	(916) 574-2714	
O	Robert Clark	North Delta Water Agency	(916) 446-0197	
OEL	Alex Hildebrand	South Delta Water Agency	(209) 823-4166	
O	Ops Center Central Valley	US Bureau of Reclamation	(916) 979-3002	
TB	Bob Pine	USFWS, Endangered Species	(916) 979-2752	

2-873 -A North Mokelumne River - Site Strategy

County: Sacramento

CHART: 18662 SACRAMENTO RIVER

Latitude
38 08 N

Longitude
121 33.5 W

SITE LOCATION: boundaries, landmarks, area to locate and delimit the site

This site extends from New Hope Landing (upper Mokelumne fork at north end of Staten Island) to the reunion with South Mokelumne River

HAZARDS and RESTRICTIONS - Air, Water & Ground - things to beware of when approaching or at site

Narrow levee roads and shoulders pose potential traffic hazard, necessitating traffic control. Slips, trips and falls on riprap.

POTENTIAL OIL IMPACTS - CONCERNS/ ADVICE to RESPONDERS: (regarding sensitive species present, penetration into marshes

or sediments, burial, organism burrows, tidal channel spreading, watertable limitations, collateral impacts)

Greatest concerns are oiling of sensitive plant habitats, toxicity to sensitive fish, and penetration into marshes, levees and riprap through openings and burrows. The intention is to exclude oil from this reach of the river by exclusion and collection booming.

SITE STRATEGIES

Strategy 2-873.1

(USCG Strategic Objective: 5,6)

Dates: SISRS Approved last tested ACP date
11/06/1996 07/01/1996

Objective or Prevention Condition

For oil threats from the north, deploy collection boom to stop downstream oil spread by grounding oil for favorable collection.

Technique Details

Check here means "No strategy diagram": () Check here means "Contact CCC": ()

After assessing prevailing wind and current situation, deploy a exclusion-collection boom across the North Mokelumne south of Walnut Creek Road. Local conditions usually favor collection on the east levee (Staten Island); however, currents may permit collection on Tyler Island levee which has better access. Anchor near shore and ensure a tidal seal at margins. Back with sorbant boom or additional collection booms. Initiate skimming with land-based system.

Strategy 2-873.2

(USCG Strategic Objective: 5)

Dates: SISRS Approved last tested ACP date
11/06/1996 07/01/1996

Objective or Prevention Condition

If oil is threatening from south, execute south Georgiana Slough strategy and exclude oil movement upstream on flood tide.

Technique Details

Check here means "No strategy diagram": () Check here means "Contact CCC": ()

1. Excute Georgiana Slough strategy 2-814.3.
2. Deploy 700' 6X6+ exclusion-collection boom to exclude oil from reach and to divert it to most favorable shore for collection. Prevailing conditions usually favor collection oil on the east bank (Staten Island). Deploy boom to favor a land-based collection about 300 yards upstream from Staten Island tip.
3. Back with sorbent.

Strategy 2-873.3

(USCG Strategic Objective: 5)

Dates: SISRS Approved last tested ACP date
11/06/1996 07/01/1996

Objective or Prevention Condition

If oil is moving within the reach which will threaten mid-channel island, put protective boom around island.

Technique Details

Check here means "No strategy diagram": () Check here means "Contact CCC": ()

Deploy 1000 ft 4X4+ protective boom around island using anchors and stakes position boom. Sorbent boom as needed and at every point where bridging may occur. Check often until verified that tidal fluxuation seal is intact.

Table of Response Resources

strategy	hboom	swpbm	xboom	Anchoring	sorb	Bb/skif	skimmers	-No	special equip	deploy personnel	tending personnel	SO
2-873.1	400			2/25lb/anchors	400	0/1	portable & VT		1	2 PERSONS +	skimming and checks	5,6
2-873.2	700			2/25lb/anchors	600	0/1				3 PERSON	skimming and checks	5
2-873.3	1000			4/15lb/danforths & stakes	400	1/1				3 PERSON	occasional checks	5

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Water access from south is from B&W Resort at Hwy 12 or from the north from Walnut Grove Marina or Wimp's. Levees on Staten, Tyler and Brannon Islands provide access: Tyler and Brannon are paved.

LAND ACCESS LEVEL: (foot only, 2WD, large truck, 4WD, road limitations...seasonal..locked gates)
ALL WEATHER/TRAFFIC EAST OR DRY

WATER LOGISTICS:

Access limitations: depth, obstructions: GOOD WATER THROUGHOUT.

Boat Launching, Loading, Docking B&W Resort Marina at Hwy 12 is well equipped and spacious. Walnut Grove and New Hope and Services Available: Landing at north end have similar facilities.

FACILITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Both sites provide good deployment sites and facility support. Rental boats and house boats are available at Hwy 12. Most of these strategies can be supported by supplying boom from the shore.

COMMUNICATIONS LIMITATIONS / PROBLEMS:

No Problems Radio Pager Cell phone

ADDITIONAL COMMENTS

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South Mokelumne River - Site Summary

2-880 -A

County: San Joaquin
USGS: Thornton, Isleton

GRP: Latitude 38 07.5 N Longitude 121 31 W
OSPR Map: 167, 166 Last ACP Update 07/01/1996

SITE DESCRIPTION: (general characterization of site - geomorphology, habitat, exposure, currents)

This site from its confluence with the North Mokelumne at New Hope Landing to its reunion with the North Mokelumne at the south tip of Staten Island. This wide deep channel is mostly ripped levees along its 13 mile length, but there are also numerous ecologically sensitive marshy channel and berm islands throughout its length including a heron rookery (see site 2-864). Most of the islands are small but several are up to an acre in size. Several sensitive sites branch off this site: 2-862, 2-866, 2-868. It is important as a fish migration route. Many Special Status Species occur in this area.

SEASONAL and SPECIAL RESOURCE CONCERNS (seasonal issues, special status spp present, water intakes)

This site is very sensitive year-round because many Special Status Species occur here including: winter-run chinook, of some concern Sept 15 - May 31; many rare plants; Birds: Swainson's hawk, greater sandhill crane, and a heron rookery. Marsh and riparian vegetation zones here are of A concern year-round.

RESOURCES AT RISK

HABITATS AT RISK: (biological habitats including time of year when most sensitive and vulnerable)

Over 11 Special Status Species occur in this area. The channel islands are prime natural habitat and freshwater marshes. Despite levee riprap disturbance there is some good vegetation particularly mature trees and shrubs at the northerly end. Aquatic community is typical for delta, and this is an important pathway for migrating fish.

SPECIES/COMMUNITIES AT RISK (Brief summaries including time of year when most sensitive/vulnerable)

Swainson's hawk and greater sandhill crane are sensitive bird species which occur in this area. Riverine species include waterfowl and marsh birds.

The channel islands are used by riverine mammals, reptiles and amphibians. Western pond turtle (F/C-SC) occurs here. The levees are used by mammals and reptiles which can pass though and use disturbed and patchy habitat.

Salmon smolts (particularly winter-run chinook) are known to wander through this area during downstream migration. Juvenile and adult striped bass and warm water fish are typical.

Emergent vegetation occurs throughout the area.

Sensitive plants occur here including delta tule pea, California Hibiscus, Delta mudwort, Sanford's arrowhead, marsh skullcap, elderberry bush, Suisun marsh aster, Mason's lilaeopsis.

CULTURAL and ARCHEOLOGICAL SENSITIVITIES

KEY SITE CONTACTS - type: E-ntry/access; B-iological expertise; L-ogistical; C-ultural; T-rustee; or O-ther assistance

Type	Name	Organization	Phone	FAX
BL	Kent Nelson	Ca Dept of Water Resources	(916) 227-7581	
B	Brenda Grewell	Ca Dept Water Resources	(916) 227-7520	(916) 227-7554
BT	Ed Littrell	Ca Dept. of Fish and Game	(916) 358-2924	(916) 358-2912
OEL	Dan Nomellini	Central Delta Water Agency	(209) 465-5883	
TB	Laurie Briden	Dept of Fish and Game Bay/Delta Studies	(209) 944-7800	
E	Chris Neudeck	Mandeville, Victoria, & Union Isls Recl Dists	(290) 946-0268	
O	Robert Clark	North Delta Water Agency	(916) 446-0197	
E	Tom Rosten	Rec Upper/Lower Jones, Terminous,	(209) 836-0829	
E	Henry Matsunaga	Sherman Reclamation District	(916) 448-2821	
TB	Bob Pine	USFWS, Endangered Species	(916) 979-2752	
E	Gilbert Cosio	Webb Tract & Bacon Isl Reclamation	(916) 456-0253	

2-880 -A South Mokelumne River - Site Strategy

County: San Joaquin

CHART: 18662 SACRAMENTO RIVER

Latitude
38 07.5 N

Longitude
121 31 W

SITE LOCATION: boundaries, landmarks, area to locate and delimit the site

This site from its confluence with the North Mokelumne at New Hope Landing to its reunion with the North Mokelumne at the south tip of Staten Island.

HAZARDS and RESTRICTIONS - Air, Water & Ground - things to beware of when approaching or at site

Low flying aircraft beware of high wires near New Hope Landing. Slips, trips and falls on riprap and steep levees. Regarding boat handling, beware of shallows, snags and mud bars. Poison Oak.

POTENTIAL OIL IMPACTS - CONCERNS/ ADVICE to RESPONDERS: (regarding sensitive species present, penetration into marshes

or sediments, burial, organism burrows, tidal channel spreading, watertable limitations, collateral impacts)

The concern is two-fold: first, that oil will be transported though this site to other parts of the delta; and second, that marshy islands and margins will be come oiled. These marshy areas are sensitive and habitat to many sensitive species. There is always the concern of impacts from response and cleanup: trampling vegetation, disturbing wildlife, and tracking oil into marshes and muds.

SITE STRATEGIES

Strategy 2-880.1

(USCG Strategic Objective: 5)

Dates: SISRS Approved last tested ACP date
11/06/1996 07/01/1996

Objective or Prevention Condition

Stop oil from entering or leaving the south mouth by setting boom across the mouth.

Technique Details

Check here means "No strategy diagram": () Check here means "Contact CCC": ()

Set 500 ft of 6X6 boom completely across mouth at a diagonal using levees as anchor points, leaving a trailing boom length to maintain seal during tidal vacillations. Back with sorbent.

Strategy 2-880.2

(USCG Strategic Objective: 5)

Dates: SISRS Approved last tested ACP date
11/06/1996 07/01/1996

Objective or Prevention Condition

Stop oil movement into or out of site at north end. Current is downstream during most times of the year.

Technique Details

Check here means "No strategy diagram": () Check here means "Contact CCC": ()

Set 100' of 6X6 boom from the seawall at New Hope Landing to a point 50' downstream on Staten Island. Use Staten island attachment as a collection point.

Strategy 2-880.3

(USCG Strategic Objective: 8)

Dates: SISRS Approved last tested ACP date
11/06/1996 07/01/1996

Objective or Prevention Condition

Protect marshy islands within channel

Technique Details

Check here means "No strategy diagram": () Check here means "Contact CCC": ()

Exclusion boom and sorbent boom around and close-off entry to islands.

Table of Response Resources

strategy	hboom	swpbm	xboom	Anchoring	sorb	Bb/skif	skimmers -No	special equip	deploy personnel	tending personnel	SO
2-880.1		500		2/25/DANFORTH		0/1			2 PEOPLE/ 1	occasional checks	5
2-880.2		100		2/25/danforth			portable & VT	1	2 PEOPLE/ 1	checks or skimming	5
2-880.3		3000		12/15/Danforths	1000				4 PERSON/2	occasional checks	8

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Key access to site is from west side from Staten Island levees which may be reached via I-5, exit at Thornton/Walnut Grove Rd and continue west to Staten Island Road and from east side levees as well (see Sycamore Slough 2-890). Water access is via marinas on south end along Hwy 12 (Terminus and B&W) or at north end at New Hope Landing.

LAND ACCESS LEVEL: (foot only, 2WD, large truck, 4WD, road limitations...seasonal...locked gates)
LEVEE ROADS GOOD EXCEPT WET

WATER LOGISTICS:

Access limitations: depth, obstructions: GOOD WATER EXCEPT AT SHORE

Boat Launching, Loading, Docking Marina and boat launch south at Terminus and B&W Resort at Hwy 12 or up-river at New Hope Landing at Thornton Road. Rental boats, restaurants, facilities, and some lodging/camping and Services Available: are available also.

FACILITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Adjacent levees should be adequate as long as roads are passable. There are roads leading to levees from west (Staten Island) or east and material may be staged nearby. Otherwise transport material by skiff.

COMMUNICATIONS LIMITATIONS / PROBLEMS:

No Problems Radio Pager Cell phone

ADDITIONAL COMMENTS

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Sycamore Slough - Site Summary

2-882 -A

County: San Joaquin
USGS: Thornton

GRP: Latitude 38 08.5 N Longitude 121 30.2 W
OSPR Map: 167 Last ACP Update 07/01/1996

SITE DESCRIPTION: (general characterization of site - geomorphology, habitat, exposure, currents)

This dead-end slough extends from its mouth at its junction with the South Mokelumne River about 5 miles to its terminus. It is a DMRP designated Natural Resource Area with Significant Habitat Values. There are a number of ecologically rich marshy channel islands. Margins mostly heavily ripped but with pockets of emergent marsh vegetations and scrub shrub. Snags and shallows are common this low energy slough. It becomes fairly narrow and shallow water towards its end.

SEASONAL and SPECIAL RESOURCE CONCERNS (seasonal issues, special status spp present, water intakes)

Marsh and riparian vegetation zones are of "A" concern year-round. Special Status Species here include: winter-run chinook, of concern Sept 15 - May 31. Rare plants in slough margins: Mason's lilaeopsis. Birds: Swainson's hawk and greater sandhill crane.

RESOURCES AT RISK

HABITATS AT RISK: (biological habitats including time of year when most sensitive and vulnerable)

The channel islands are prime natural habitat and freshwater marshes. The bordering levee is disturbed as a result of riprap but still has good vegetation. Aquatic community is typical for delta including wandering migrant salmonids. This is considered a prime fishing area.

SPECIES/COMMUNITIES AT RISK (Brief summaries including time of year when most sensitive/vulnerable)

Swainson's hawk (FSC/CT) and greater sandhill crane (CT) are sensitive species which occur in this area. Riverine species include waterfowl and marsh birds.

The channel islands are used by riverine mammals, reptiles and amphibians. The levees are used by mammals and reptiles which can use or pass through disturbed and patchy habitat. Habitat may be suitable for western pond turtle.

Salmon smolts (particularly winter-run chinook) are known to wander through this area during downstream migration. Striped bass and warm water fish are heavily fished here.

Emergent vegetation occurs throughout site.
Sensitive plants occur here including Mason's lilaeopsis.

CULTURAL and ARCHEOLOGICAL SENSITIVITIES

KEY SITE CONTACTS - type: E-nterprise/access; B-iological expertise; L-ogistical; C-ultural; T-rustee; or O-ther assistance

Type	Name	Organization	Phone	FAX
BL	Kent Nelson	Ca Dept of Water Resources	(916) 227-7581	
B	Brenda Grewell	Ca Dept Water Resources	(916) 227-7520	(916) 227-7554
BT	Ed Littrell	Ca Dept. of Fish and Game	(916) 358-2924	(916) 358-2912
OEL	Dan Nomellini	Central Delta Water Agency	(209) 465-5883	
TB	Laurie Briden	Dept of Fish and Game Bay/Delta Studies	(209) 944-7800	
E	Chris Neudeck	Mandeville, Victoria, & Union Isls Recl Dists	(290) 946-0268	
E	Tom Rosten	Rec Upper/Lower Jones, Terminous,	(209) 836-0829	
E	Henry Matsunaga	Sherman Reclamation District	(916) 448-2821	
TB	Bob Pine	USFWS, Endangered Species	(916) 979-2752	

2-882 -A Sycamore Slough - Site Strategy

County: San Joaquin

CHART: 18662 SACRAMENTO RIVER

Latitude
38 08.5 N

Longitude
121 30.2 W

SITE LOCATION: boundaries, landmarks, area to locate and delimit the site

This dead-end slough extends from its mouth at its junction with the South Mokelumne River about 5 miles to its terminus.

HAZARDS and RESTRICTIONS - Air, Water & Ground - things to beware of when approaching or at site

Riprap poses slip, trip and fall hazards. Vessels beware of submerged objects and shallows at margins.

POTENTIAL OIL IMPACTS - CONCERNS/ ADVICE to RESPONDERS: (regarding sensitive species present, penetration into marshes

or sediments, burial, organism burrows, tidal channel spreading, watertable limitations, collateral impacts)

The concern is two-fold: first, that oil will be transported though this site to other parts of the delta; and second, that marshy islands and margins will be come oiled. These marshy areas are sensitive and habitat to many sensitive species, including a nearby heron rookery at Sycamore Island: KEEP HELICOPTERS AWAY. There is always the concern of impacts from response and cleanup: trampling vegetation, disturbing wildlife, and tracking oil into marshes and muds.

SITE STRATEGIES

Strategy 2-882.1

(USCG Strategic Objective: 5)

Dates: SISRS Approved last tested ACP date
11/06/1996 07/01/1996

Objective or Prevention Condition

Stop oil from entering or leaving the slough by setting boom across the mouth.

Technique Details

Check here means "No strategy diagram": () Check here means "Contact CCC": ()

Set 300 ft of 6X6 boom completely across slough mouth using levees as anchor points, leaving a trailing boom length to maintain seal during tidal vacillations. Back with sorbent.

Table of Response Resources

strategy	hboom	swpbm	xboom	Anchoring	sorb	Bb/skif	skimmers	-No	special equip	deploy personnel	tending personnel	SO
2-882.1		300		2/15/DANFORTH	300	0/1				2 PEOPLE/ 1	occasional checks	5

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Key access to site is from levee Roads: I-5, exit Turner Rd and continue north on Thornton and west on Woodbridge to access north levee road; or Glascock Rd north from Hwy 12 to south levee. Water access is South Mokelumne River north from Terminous (2.5 mi) or south from New Hope Landing (8 mi).

LAND ACCESS LEVEL: (foot only, 2WD, large truck, 4WD, road limitations...seasonal...locked gates)
LEVEE ROADS GOOD EXCEPT WET

WATER LOGISTICS:

Access limitations: depth, obstructions: SHALLOW & SNAGS

Boat Launching, Loading, Docking Marina and boat launch 2 river miles south at Terminous at Hwy 12 or 6.5 miles up-river at New Hope Landing at Thornton Road.

FACILITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Adjacent levees should be adequate as long as roads are passable. There are roads leading to levees from the east and material may be staged nearby. Otherwise transport material by skiff.

COMMUNICATIONS LIMITATIONS / PROBLEMS:

No Problems Radio Pager Cell phone

ADDITIONAL COMMENTS

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Sycamore Island - Site Summary

2-884 -A

County: San Joaquin
USGS: Thornton

GRP: Latitude 38 08.7 N Longitude 121 30.5 W
OSPR Map: 167 Last ACP Update 07/01/1996

SITE DESCRIPTION: (general characterization of site - geomorphology, habitat, exposure, currents)

This site is a marshy, brushy island in a curve of the River just above Sycamore Slough. This small island is a DMRP designated Natural Resource Area with Significant Habitat Values. Most of the island is covered with shrubby willows, and a large heron rookery mostly on the westerly side. The east side is inundated and eroding because of wave wash from river and traffic, and is particularly vulnerable to oil intrusion. Water flow on east side tends to be swift while flow on west side tends to be lazy, in an enveloping bend. There are pilings at the northeast margin.

SEASONAL and SPECIAL RESOURCE CONCERNS (seasonal issues, special status spp present, water intakes)

This area is particularly sensitive nesting site for blackcrown night herons during spring and summer nesting and at night. Marsh and riparian vegetation zones are of "A" concern year-round. Special Status Species here include: winter-run chinook, of concern Sept 15 - May 31; plants in slough margins: Mason's lilaeopsis; birds: Swainson's hawk and greater sandhill crane.

RESOURCES AT RISK

HABITATS AT RISK: (biological habitats including time of year when most sensitive and vulnerable)

The island is a particularly valuable natural marsh because it is a heron rookery. Aquatic community is of secondary concern.

SPECIES/COMMUNITIES AT RISK (Brief summaries including time of year when most sensitive/vulnerable)

This is a blackcrown night heron rookery. Swainson's hawk and greater sandhill crane are sensitive species which occur in this area. Riverine species include waterfowl and marsh birds also use the island.

The channel islands are used by riverine mammals, reptiles and amphibians. Habitat may be suitable for western pond turtle.

Emergent vegetation dominates this channel island.

Sensitive plants occur here including Mason's lilaeopsis.

CULTURAL and ARCHEOLOGICAL SENSITIVITIES

KEY SITE CONTACTS - type: E-ntry/access; B-iological expertise; L-ogistical; C-ultural; T-rustee; or O-ther assistance

Type	Name	Organization	Phone	FAX
BL	Kent Nelson	Ca Dept of Water Resources	(916) 227-7581	
B	Brenda Grewell	Ca Dept Water Resources	(916) 227-7520	(916) 227-7554
BT	Ed Littrell	Ca Dept. of Fish and Game	(916) 358-2924	(916) 358-2912
OEL	Dan Nomellini	Central Delta Water Agency	(209) 465-5883	
TB	Laurie Briden	Dept of Fish and Game Bay/Delta Studies	(209) 944-7800	
E	Chris Neudeck	Mandeville, Victoria, & Union Isls Recl Dists	(290) 946-0268	
E	Tom Rosten	Rec Upper/Lower Jones, Terminous,	(209) 836-0829	
E	Henry Matsunaga	Sherman Reclamation District	(916) 448-2821	
TB	Bob Pine	USFWS, Endangered Species	(916) 979-2752	

2-884 -A Sycamore Island - Site Strategy

County: San Joaquin

CHART: 18662 SACRAMENTO RIVER

Latitude
38 08.7 N

Longitude
121 30.5 W

SITE LOCATION: boundaries, landmarks, area to locate and delimit the site

This site is a marshy, brushy island in a curve of the River just above Sycamore Slough.

HAZARDS and RESTRICTIONS - Air, Water & Ground - things to beware of when approaching or at site

Riprap poses slip, trip and fall hazards. Vessels beware of submerged objects and shallows at margins.

POTENTIAL OIL IMPACTS - CONCERNS/ ADVICE to RESPONDERS: (regarding sensitive species present, penetration into marshes or sediments, burial, organism burrows, tidal channel spreading, watertable limitations, collateral impacts)

This is a very sensitive site because of the bird use. KEEP HELICOPTERS AWAY from this site. Concerns are penetration into the marshy areas, woody cover. Cleanup would be impossible during breeding season and inadvisable at other times. No helicopters may be flown within a mile of this site. Keep disturbance to a minimum.

SITE STRATEGIES

Strategy 2-884.1

(USCG Strategic Objective: 5)

Dates: SISRS Approved last tested ACP date
11/06/1996 07/01/1996

Objective or Prevention Condition

Phase I: Stop oil from penetrating or oiling the island by placing exclusionary boom across the channel meander and the east side.

Technique Details

Check here means "No strategy diagram": () Check here means "Contact CCC": ()

Set 1500 ft of 4X4 or better boom completely across the meander channel and east side of island. Anchor one boom end near levee to north and lay boom across channel mouth to island, then along island and continue to levee across downstream channel. Leave a trailing boom length to maintain seal during tidal vacillations. Back with sorbent.

Strategy 2-884.2

(USCG Strategic Objective: 7)

Dates: SISRS Approved last tested ACP date
11/06/1996 07/01/1996

Objective or Prevention Condition

Phase II: Divert oil away from island side of river toward the east bank to minimize exposure of island to oil.

Technique Details

Check here means "No strategy diagram": () Check here means "Contact CCC": ()

Run 300 ft 6X6 boom diagonally downstream across Mokeleumne River. Anchor upstream end 75 ft upstream from exclusion boom. Use downstream anchor point as possible skim/collection site.

Table of Response Resources

strategy	hboom	swpbm	xboom	Anchoring	sorb	Bb/skif	skimmers	-No	special equip	deploy personnel	tending personnel	SO
2-884.1		1500		4/15/DANFORTH	1500	0/2)				4 PEOPLE/ 2	diligent checks	5
2-884.2		300		2/15/danforth		0/1				4 PERSON/ 2	close watch.	7

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Key access to this island site is water access via South Fork Mokelumne River north from Terminous or south from New Hope Landing. Road support from east side via I-5, exit at Turner Rd and continue north on J8 and west on Woodbridge Rd to access levee roads which border the slough.

LAND ACCESS LEVEL: (foot only, 2WD, large truck, 4WD, road limitations...seasonal..locked gates)
LEVEE ROADS GOOD EXCEPT WET

WATER LOGISTICS:

Access limitations: depth, obstructions: SHALLOW & SNAGS

Boat Launching, Loading, Docking Marina and boat launch 2 river miles south at Terminous at Hwy 12 or 6.5 miles up-river at New Hope Landing at Thornton Road.

FACILITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Adjacent levees should be adequate as long as roads are passable. Either levee (Staten Island or Brack Tract) can be used to off-load boom from ground transport. All weather roads approach this site from both east and west. Otherwise transport material by skiff.

COMMUNICATIONS LIMITATIONS / PROBLEMS:

No Problems Radio Pager Cell phone

ADDITIONAL COMMENTS

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Hog Slough - Site Summary

2-886 -A

County: San Joaquin
USGS: Thornton

GRP: Latitude 38 11.7 N Longitude 121 28.7 W
OSPR Map: 167 Last ACP Update 07/01/1996

SITE DESCRIPTION: (general characterization of site - geomorphology, habitat, exposure, currents)

This dead-end slough extends from its mouth at its junction with the South Fork Mokelumne River Cut about 3 miles to its terminus.

The Slough is a Delta Master Recreational Plan designated Natural Resource Area with Significant Habitat Values. There are a number of ecologically rich marshy channel islands. Margins mostly heavily ripped but with pockets of emergent marsh vegetation and scrub shrub. Snags and shallows are common in this low energy slough. It becomes fairly narrow and shallow towards its end.

SEASONAL and SPECIAL RESOURCE CONCERNS (seasonal issues, special status spp present, water intakes)

Marsh and riparian vegetation zones are of "A" concern year-round. Special Status Species here include: winter-run chinook, of concern Sept 15 - May 31. Plants in slough margins: Mason's lilaeopsis and California hibiscus. Birds: Swainson's hawk and greater sandhill crane.

RESOURCES AT RISK

HABITATS AT RISK: (biological habitats including time of year when most sensitive and vulnerable)

Aquatic community is typical for Delta except that salmonids are not common. This is considered a prime fishing area. The channel islands are prime natural habitat and freshwater marshes. The levee is disturbed as a result of riprap but still has good vegetation.

SPECIES/COMMUNITIES AT RISK (Brief summaries including time of year when most sensitive/vulnerable)

Swainson's hawk and greater sandhill crane are sensitive species which occur here. Riverine species include waterfowl and marsh birds.

The channel islands are used by riverine mammals, reptiles and amphibians. The levees are used by mammals and reptiles which can pass though and use disturbed and patchy habitat. Habitat may be suitable for western pond turtle.

Salmon smolts (particularly winter-run chinook) are known to wander through this area during downstream migration. Juvenile and adult striped bass and warm water fish are typical.

Freshwater invertebrates are those typical of fresher Delta waters.

Emergent vegetation occurs throughout the area.

A number of sensitive plants occur here including Mason's lilaeopsis and California hibiscus.

CULTURAL and ARCHEOLOGICAL SENSITIVITIES

KEY SITE CONTACTS - type: E-ntry/access; B-iological expertise; L-ogistical; C-ultural; T-rustee; or O-ther assistance

Type	Name	Organization	Phone	FAX
BL	Kent Nelson	Ca Dept of Water Resources	(916) 227-7581	
B	Brenda Grewell	Ca Dept Water Resources	(916) 227-7520	(916) 227-7554
BT	Ed Littrell	Ca Dept. of Fish and Game	(916) 358-2924	(916) 358-2912
OEL	Dan Nomellini	Central Delta Water Agency	(209) 465-5883	
TB	Laurie Briden	Dept of Fish and Game Bay/Delta Studies	(209) 944-7800	
E	Chris Neudeck	Mandeville, Victoria, & Union Isls Recl Dists	(290) 946-0268	
E	Henry Matsunaga	Sherman Reclamation District	(916) 448-2821	
TB	Bob Pine	USFWS, Endangered Species	(916) 979-2752	
E	Gilbert Cosio	Webb Tract & Bacon Isl Reclamation	(916) 456-0253	

2-886 -A Hog Slough - Site Strategy

County: San Joaquin

CHART: 18662 SACRAMENTO RIVER

Latitude
38 11.7 N

Longitude
121 28.7 W

SITE LOCATION: boundaries, landmarks, area to locate and delimit the site

This dead-end slough extends from its mouth at its junction with the South Fork Mokelumne River Cut about 3 miles to its terminus.

HAZARDS and RESTRICTIONS - Air, Water & Ground - things to beware of when approaching or at site

Riprap poses slip, trip and fall hazards. Vessels beware of submerged objects and shallows at margins.

POTENTIAL OIL IMPACTS - CONCERNS/ ADVICE to RESPONDERS: (regarding sensitive species present, penetration into marshes

or sediments, burial, organism burrows, tidal channel spreading, watertable limitations, collateral impacts)

The concern is two-fold: first, that oil will be transported though this site to other parts of the delta; and second, that marshy islands and margins will be come oiled. These marshy areas are sensitive and habitat to many sensitive species. There is always the concern of impacts from response and cleanup: trampling vegetation, disturbing wildlife, and tracking oil into marshes and muds.

SITE STRATEGIES

Strategy 2-886.1

(USCG Strategic Objective: 5)

Dates: SISRS Approved last tested ACP date
11/06/1996 07/01/1996

Objective or Prevention Condition

Stop oil from entering or leaving the slough by stringing lengths of boom between the two channel islands at the mouth.

Technique Details

Check here means "No strategy diagram": () Check here means "Contact CCC": ()

Set boom completely across slough mouth using levees and channel islands as anchor points, leaving a trailing boom length to maintain tidal seal during tidal elevation vacillations. Back with sorbent. The lengths between land falls are (from north to south) 200', 300', 200', and 200'.

Table of Response Resources

strategy	hboom	swpbm	xboom	Anchoring	sorb	Bb/skif	skimmers	-No	special equip	deploy personnel	tending personnel	SO
2-886.1		900		8/15/DANFORTH	900	1/1				2 PEOPLE/ 1	occasional checks	5

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Key access to site is from east side via I-5, exit at Turner Rd and continue north to Woodbridge then west to access levee road which border the slough and River. Water access is South Fork Mokelumne River: south from New Hope Landing or north from Terminous.

LAND ACCESS LEVEL: (foot only, 2WD, large truck, 4WD, road limitations...seasonal, locked gates)
LEVEE ROADS GOOD EXCEPT WET

WATER LOGISTICS:

Access limitations: depth, obstructions: SHALLOW & SNAGS

Boat Launching, Loading, Docking Marina and boat launch 4 river miles south at Terminous at Hwy 12 or 4.5 miles up-river at New Hope Landing at Thornton Road.

FACILITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Adjacent levees should be adequate as long as roads are passable. There are roads leading to levees from the east and material may be staged nearby. Otherwise transport material by skiff.

COMMUNICATIONS LIMITATIONS / PROBLEMS:

No Problems Radio Pager Cell phone

ADDITIONAL COMMENTS

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Beaver Slough - Site Summary

2-888 -A

County: San Joaquin
USGS: Thornton

GRP: Latitude 38 12 N Longitude 121 28 W
OSPR Map: 167 Last ACP Update 07/01/1996

SITE DESCRIPTION: (general characterization of site - geomorphology, habitat, exposure, currents)

This dead-end slough extends from its mouth at its junction with the South Fork Mokelumne River Cut about 4 miles to its terminus near I-5. The Slough is a Delta Master Recreational Plan designated Natural Resource Area with Significant Habitat Values. There are a number of ecologically rich marshy channel islands. Margins mostly heavily ripped but with pockets of emergent marsh vegetations and scrub shrub. It becomes fairly narrow and shallow water towards its end. Snags and shallows are common this low energy slough.

SEASONAL and SPECIAL RESOURCE CONCERNS (seasonal issues, special status spp present, water intakes)

Marsh and riparian vegetation zones are of "A" concern year-round. Special Status Species here include: winter-run chinook, of concern Sept 15 - May 31. Plants in slough margins: Delta tule pea, Delta mudwort, Mason's lilaeopsis and California hibiscus. Birds: Swainson's hawk and greater sandhill crane.

RESOURCES AT RISK

HABITATS AT RISK: (biological habitats including time of year when most sensitive and vulnerable)

Aquatic community is typical for Delta except that salmonids are not common. This is considered a prime fishing area. The channel islands are prime natural habitat and freshwater marshes. The levee is disturbed as a result of riprap but still has good vegetation.

SPECIES/COMMUNITIES AT RISK (Brief summaries including time of year when most sensitive/vulnerable)

Swainson's hawk and greater sandhill crane are sensitive species which occur in this area. Riverine species include waterfowl and marsh birds.

The channel islands are used by riverine mammals, reptiles and amphibians. The levees are used by mammals and reptiles which can pass though and use disturbed and patchy habitat. Habitat may be suitable for western pond turtle.

Salmon smolts (particularly winter-run chinook) are known to wander through this area during downstream migration. Juvenile and adult striped bass and warm water fish are typical.

Freshwater invertebrates are those typical of fresher delta waters.

Emergent vegetation occurs throughout the area.

A number of sensitive plants occur here including Delta tule pea, Delta mudwort, Mason's lilaeopsis and California hibiscus.

CULTURAL and ARCHEOLOGICAL SENSITIVITIES

KEY SITE CONTACTS - type: E-ntry/access; B-iological expertise; L-ogistical; C-ultural; T-rustee; or O-ther assistance

Type	Name	Organization	Phone	FAX
BL	Kent Nelson	Ca Dept of Water Resources	(916) 227-7581	
B	Brenda Grewell	Ca Dept Water Resources	(916) 227-7520	(916) 227-7554
BT	Ed Littrell	Ca Dept. of Fish and Game	(916) 358-2924	(916) 358-2912
TB	Laurie Briden	Dept of Fish and Game Bay/Delta Studies	(209) 944-7800	
O	Robert Clark	North Delta Water Agency	(916) 446-0197	
E	Henry Matsunaga	Sherman Reclamation District	(916) 448-2821	
TB	Bob Pine	USFWS, Endangered Species	(916) 979-2752	
E	Gilbert Cosio	Webb Tract & Bacon Isl Reclamation	(916) 456-0253	

2-888 -A Beaver Slough - Site Strategy

County: San Joaquin

CHART: 18662 SACRAMENTO RIVER

Latitude
38 12 N

Longitude
121 28 W

SITE LOCATION: boundaries, landmarks, area to locate and delimit the site

This dead-end slough extends from its mouth at its junction with the South Fork Mokelumne River Cut about 4 miles to its terminus near I-5.

HAZARDS and RESTRICTIONS - Air, Water & Ground - things to beware of when approaching or at site

Riprap poses slip, trip and fall hazards. Vessels beware of submerged objects and shallows at margins.

POTENTIAL OIL IMPACTS - CONCERNS/ ADVICE to RESPONDERS: (regarding sensitive species present, penetration into marshes

or sediments, burial, organism burrows, tidal channel spreading, watertable limitations, collateral impacts)

The concern is two-fold: first, that oil will be transported though this site to other parts of the delta; and second, that marshy islands and margins will be come oiled. These marshy areas are sensitive and habitat to many sensitive species. There is always the concern of impacts from response and cleanup: trampling vegetation, disturbing wildlife, and tracking oil into marshes and muds.

SITE STRATEGIES

Strategy 2-888.1

(USCG Strategic Objective: 5)

Dates: SISRS Approved last tested ACP date
11/06/1996 07/01/1996

Objective or Prevention Condition

Stop oil from entering or leaving the slough by stringing boom across the mouth.

Technique Details

Check here means "No strategy diagram": () Check here means "Contact CCC": ()

Set 300ft of 4X4 boom completely across slough mouth using levees as anchor points and leaving a trailing boom length to maintain seal during tidal vacillations. Back with sorbent. Also, position 30ft of 4X4 curtain boom across the opening and 40 ft of sorbent.

Table of Response Resources

strategy	hboom	swpbm	xboom	Anchoring	sorb	Bb/skif	skimmers	-No	special equip	deploy personnel	tending personnel	SO
2-888.1	350			3/15/DANFORTH	300	0/1				2 PEOPLE/ 1	occasional checks	5

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Key access to site is levee roads: via I-5, exit at Walnut Grove Rd and continue west, then south on Blossom Rd Bridge over slough: access levee roads which border the slough (other farm roads access levee from county roads). Water access is South Fork Mokelumne River south from New Hope Landing (2.5 mi) or north from Terminous.

LAND ACCESS LEVEL: (foot only, 2WD, large truck, 4WD, road limitations...seasonal..locked gates)
LEVEE ROADS GOOD EXCEPT WET

WATER LOGISTICS:

Access limitations: depth, obstructions: SHALLOW & SNAGS

Boat Launching, Loading, Docking Marina and boat launch 4 river miles south at Terminous at Hwy 12 or 4.5 miles up-river at New Hope Landing at Thornton Road.

FACILITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Adjacent levees should be adequate as long as roads are passable. There are roads leading to levees from the east and material may be staged nearby. Otherwise transport material by skiff.

COMMUNICATIONS LIMITATIONS / PROBLEMS:

No Problems Radio Pager Cell phone

ADDITIONAL COMMENTS

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Mokelumne River, New Hope Reach - Site Summary

2-890 -A

County: San Joaquin / Sacramento
USGS: Bruceville, Thornton

GRP: **Latitude** 38 15 N **Longitude** 121 29 W
OSPR Map: **Last ACP Update** 07/01/1996

SITE DESCRIPTION: (general characterization of site - geomorphology, habitat, exposure, currents)

From landing at Thornton Road to confluence with Cosumnes River. Extensive woody riparian and marshy margin. Prone to overflow to Snodgrass Slough during flood flows.

SEASONAL and SPECIAL RESOURCE CONCERNS (seasonal issues, special status spp present, water intakes)

The site is an "A" priority year-round. Several Special Status Species occur here.

RESOURCES AT RISK

HABITATS AT RISK:(biological habitats including time of year when most sensitive and vulnerable)

This extensive freshwater marsh system is good habitat for marsh birds and mammals of all kinds. This is nesting and foraging habitat for all manner of waterfowl and marsh birds. The marsh also supports a wide diversity of marsh mammals and other vertebrates.

SPECIES/COMMUNITIES AT RISK (Brief summaries including time of year when most sensitive/vulnerable)

CULTURAL and ARCHEOLOGICAL SENSITIVITIES

KEY SITE CONTACTS - type: E-ntry/access; B-iological expertise; L-ogistical; C-ultural; T-rustee; or O-ther assistance

Type	Name	Organization	Phone	FAX
BL	Kent Nelson	Ca Dept of Water Resources	(916) 227-7581	
B	Brenda Grewell	Ca Dept Water Resources	(916) 227-7520	(916) 227-7554
TB	Ed Littrell	Ca Dept. of Fish and Game	(916) 358-2924	(916) 358-2912
TB	Laurie Briden	Dept of Fish and Game Bay/Delta Studies	(209) 944-7800	
TB	Bob Pine	USFWS, Endangered Species	(916) 979-2752	

2-890 -A Mokelumne River, New Hope Reach - Site Strategy

County: San Joaquin / Sacramento

CHART: 18662 SACRAMENTO RIVER

Latitude
38 15 N

Longitude
121 29 N

SITE LOCATION: boundaries, landmarks, area to locate and delimit the site

HAZARDS and RESTRICTIONS - Air, Water & Ground - things to beware of when approaching or at site

Boat traffic beware of shallows, many snags and mud bars. Poison Oak.

POTENTIAL OIL IMPACTS - CONCERNS/ ADVICE to RESPONDERS: (regarding sensitive species present, penetration into marshes or sediments, burial, organism burrows, tidal channel spreading, watertable limitations, collateral impacts)

The concern is two-fold: first, that oil will be transported through this site to other parts of the delta; and second, that marshy islands and margins will be come oiled. These marshy areas are sensitive and habitat to many sensitive species. There is always the concern of impacts from response and cleanup: trampling vegetation, disturbing wildlife, and tracking oil into marshes and sediments.

SITE STRATEGIES

Strategy 2-890.1

(USCG Strategic Objective: 6)

Dates: SISRS Approved last tested ACP date
11/06/1996 07/01/1996

Objective or Prevention Condition

Stop oil from moving freely moving down the river

Technique Details

No technique developed

Check here means " No strategy diagram": () Check here means "Contact CCC": ()

Strategy 2-890.11

(USCG Strategic Objective: 6)

Dates: SISRS Approved last tested ACP date
11/06/1996 07/01/1996

Objective or Prevention Condition

Stop oil from moving freely moving down the river

Technique Details

No technique developed

Check here means " No strategy diagram": () Check here means "Contact CCC": ()

Table of Response Resources

strategy	hboom	swpbm	xboom	Anchoring	sorb	Bb/skif	skimmers	-No	special equip	deploy personnel	tending personnel	SO
2-890.1												6
2-890.11												6

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

LAND ACCESS LEVEL: (foot only, 2WD, large truck, 4WD, road limitations...seasonal..locked gates)

WATER LOGISTICS:

Access limitations: depth, obstructions:

Boat Launching, Loading, Docking
and Services Available:

FACILITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

COMMUNICATIONS LIMITATIONS / PROBLEMS: No Problems Radio Pager Cell phone

ADDITIONAL COMMENTS

Mokelumne River, New Hope Reach – No Strategy Diagram Available

Cosumnes River Reserve - Site Summary

2-895 -A

County: Sacramento
USGS: Thornton, Bruceville, Galt

GRP: Latitude 38 14 N Longitude 121 26 W
OSPR Map: Last ACP Update 07/01/1996

SITE DESCRIPTION: (general characterization of site - geomorphology, habitat, exposure, currents)

Nature Conservancy and Bureau of Land Management have established and operate this reserve. The sloughs are tidally influenced.

SEASONAL and SPECIAL RESOURCE CONCERNS (seasonal issues, special status spp present, water intakes)

The site is an "A" priority year-round. Several Special Status Species occur here.

RESOURCES AT RISK

HABITATS AT RISK:(biological habitats including time of year when most sensitive and vulnerable)

This extensive freshwater marsh system is good habitat for marsh birds and mammals of all kinds. This is nesting and foraging habitat for all manner of waterfowl and marsh birds. The marsh also supports a wide diversity of marsh mammals and other vertebrates.

Special status species occurring here include Sandhill cranes, Giant Garter snakes, and Southwest Pond turtles, as well as California hibiscus and wild rye found in this area. At least three pairs of Swainsons Hawks have also been spotted living in the reserve.

SPECIES/COMMUNITIES AT RISK (Brief summaries including time of year when most sensitive/vulnerable)

CULTURAL and ARCHEOLOGICAL SENSITIVITIES

KEY SITE CONTACTS - type: E-ntry/access; B-iological expertise; L-ogistical; C-ultural; T-rustee; or O-ther assistance

Type	Name	Organization	Phone	FAX
TBE	Holden Brink	Bureau of Land Management	(209) 683-1740	
BL	Kent Nelson	Ca Dept of Water Resources	(916) 227-7581	
B	Brenda Grewell	Ca Dept Water Resources	(916) 227-7520	(916) 227-7554
TB	Ed Littrell	Ca Dept. of Fish and Game	(916) 358-2924	(916) 358-2912
TB	Laurie Briden	Dept of Fish and Game Bay/Delta Studies	(209) 944-7800	
TB	Bob Pine	USFWS, Endangered Species	(916) 979-2752	

2-895 -A Cosumnes River Reserve - Site Strategy

County: Sacramento

CHART:

Latitude
38 14 N

Longitude
121 26 W

SITE LOCATION: boundaries, landmarks, area to locate and delimit the site

HAZARDS and RESTRICTIONS - Air, Water & Ground - things to beware of when approaching or at site

Boat traffic beware of shallows, many snags and mud bars. Poison Oak.

POTENTIAL OIL IMPACTS - CONCERNS/ ADVICE to RESPONDERS: (regarding sensitive species present, penetration into marshes or sediments, burial, organism burrows, tidal channel spreading, watertable limitations, collateral impacts)

The concern is two-fold: first, that oil will be transported though this site to other parts of the delta; and second, that marshy islands and margins will be come oiled. These marshy areas are sensitive and habitat to many sensitive species. There is always the concern of impacts from response and cleanup: trampling vegetation, disturbing wildlife, and tracking oil into marshes and muds.

SITE STRATEGIES

Strategy 2-895.1

(USCG Strategic Objective: 5)

Dates: SISRS Approved last tested ACP date
11/06/1996 07/01/1996

Objective or Prevention Condition

Stop oil from moving freely in the reserve and down the river.

Technique Details

No technique developed.

Check here means " No strategy diagram": () Check here means "Contact CCC": ()

Strategy 2-895.11

(USCG Strategic Objective: 5)

Dates: SISRS Approved last tested ACP date
11/06/1996 07/01/1996

Objective or Prevention Condition

Stop oil from moving freely in the reserve and down the river.

Technique Details

No technique developed.

Check here means " No strategy diagram": () Check here means "Contact CCC": ()

Table of Response Resources

strategy	hboom	swpbm	xboom	Anchoring	sorb	Bb/skif	skimmers	-No	special equip	deploy personnel	tending personnel	SO
2-895.1												5
2-895.11												5

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Access: Interstate 5 to Twin Cities Rd (26 miles north of Stockton, or 22 miles south of Sacramento). East on Twin Cities Rd to Franklin Blvd. Turn right on Franklin Rd and proceed south 1.5 miles. This site is just east of the Area Contingency Planning Area.

LAND ACCESS LEVEL: (foot only, 2WD, large truck, 4WD, road limitations...seasonal..locked gates)

WATER LOGISTICS:

Access limitations: depth, obstructions:

Boat Launching, Loading, Docking
and Services Available:

FACILITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

COMMUNICATIONS LIMITATIONS / PROBLEMS: No Problems Radio Pager Cell phone

ADDITIONAL COMMENTS

Cosumnes River Reserve – No Strategy Developed

Mokelumne River, Thornton Reach - Site Summary

2-896 -A

County: San Joaquin / Sacramento
USGS: Bruceville, Thornton

GRP: **Latitude** 38 14 N **Longitude** 121 25 W
OSPR Map: **Last ACP Update** 07/01/1996

SITE DESCRIPTION: (general characterization of site - geomorphology, habitat, exposure, currents)

From confluence with Cosumnes River to eastern boundary of Delta (De Vries Rd). Extensive woody riparian and marshy margin.

Some remnants of riparian live oak uplands. Prone to overflow during flood flows.

SEASONAL and SPECIAL RESOURCE CONCERNS (seasonal issues, special status spp present, water intakes)

The site is an "A" priority year-round. Several Special Status Species occur here.

RESOURCES AT RISK

HABITATS AT RISK: (biological habitats including time of year when most sensitive and vulnerable)

This extensive freshwater marsh system is good habitat for riparian species of all kinds. This is remnant expanse of natural riparian forest. It is some of the highest quality habitat of this kind in the Delta.

SPECIES/COMMUNITIES AT RISK (Brief summaries including time of year when most sensitive/vulnerable)

CULTURAL and ARCHEOLOGICAL SENSITIVITIES

KEY SITE CONTACTS - type: E-ntry/access; B-iological expertise; L-ogistical; C-ultural; T-rustee; or O-ther assistance

Type	Name	Organization	Phone	FAX
BL	Kent Nelson	Ca Dept of Water Resources	(916) 227-7581	
B	Brenda Grewell	Ca Dept Water Resources	(916) 227-7520	(916) 227-7554
TB	Ed Littrell	Ca Dept. of Fish and Game	(916) 358-2924	(916) 358-2912
TB	Laurie Briden	Dept of Fish and Game Bay/Delta Studies	(209) 944-7800	
TB	Bob Pine	USFWS, Endangered Species	(916) 979-2752	

2-896 -A Mokelumne River, Thornton Reach - Site Strategy

County: San Joaquin / Sacramento

CHART:

Latitude
38 14 N

Longitude
121 25 W

SITE LOCATION: boundaries, landmarks, area to locate and delimit the site

HAZARDS and RESTRICTIONS - Air, Water & Ground - things to beware of when approaching or at site

Boat traffic beware of shallows, many snags and mud bars. Poison Oak.

POTENTIAL OIL IMPACTS - CONCERNS/ ADVICE to RESPONDERS: (regarding sensitive species present, penetration into marshes
or sediments, burial, organism burrows, tidal channel spreading, watertable limitations, collateral impacts)

The concern is two-fold: first, that oil will be transported through this site to other parts of the delta; and second, that marshy islands and margins will be come oiled. These marshy areas are sensitive and habitat to many sensitive species. There is always the concern of impacts from response and cleanup: trampling vegetation, disturbing wildlife, and tracking oil into marshes and sediments.

SITE STRATEGIES

Strategy 2-896.1

(USCG Strategic Objective: 5)

Dates: SISRS Approved last tested ACP date
11/06/1996 07/01/1996

Objective or Prevention Condition

Stop oil from freely moving down the river.

Technique Details

no technique developed.

Check here means "No strategy diagram": () Check here means "Contact CCC": ()

Strategy 2-896.11

(USCG Strategic Objective: 5)

Dates: SISRS Approved last tested ACP date
11/06/1996 07/01/1996

Objective or Prevention Condition

Stop oil from freely moving down the river.

Technique Details

no technique developed.

Check here means "No strategy diagram": () Check here means "Contact CCC": ()

Table of Response Resources

strategy	hboom	swpbm	xboom	Anchoring	sorb	Bb/skif	skimmers	-No	special equip	deploy personnel	tending personnel	SO
2-896.1												5
2-896.11												5

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

LAND ACCESS LEVEL: (foot only, 2WD, large truck, 4WD, road limitations...seasonal..locked gates)

WATER LOGISTICS:

Access limitations: depth, obstructions:

Boat Launching, Loading, Docking

and Services Available:

FACILITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

COMMUNICATIONS LIMITATIONS / PROBLEMS: No Problems Radio Pager Cell phone

ADDITIONAL COMMENTS

Mokelumne River, Thornton Reach – No Strategy Developed